MARINE REVIEW.

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Veteran Masters and Engineers.

The number of old vessel masters and engineers on the lakes who, although retired or engaged in other lines of business, regularly renew their licenses, would probably surprise anybody aside from the steamboat inspectors at the various lake ports. Moreover, the number of old pilots and engineers still residing at lake ports is surprisingly large. Michael Driscoll and John Kirby, two of the oldest masters on the lakes, received their first licenses in 1853. Both are retired residents of the West Side, Cleveland. They are highly respected and always welcome when they drop around to the office of any of the vessel owners for a chat. Capt. George P. McKay, manager of the Mutual and Menominee transportation companies and treasurer of the Lake Carriers' Association, is another master who took out his first license along in the fifties and still attends to its renewal with religious care. The exact date of issuance of the first licenses of many old masters and engineers from the inspector's office in Cleveland cannot be definitely determined, for the reason that the earliest tabular record extant was not published until 1868, and then the length of service was indicated by the number of license renewals. In those days, however, the fee for renewal was $10, so that many masters and engineers intentionally or otherwise allowed their licenses to lapse for a period of two or three years. An annual renewal was supposed to be obligatory, just as at present, but the law was not always rigidly observed.

Among the other older masters, with the approximate dates of their first application for licenses, are: Samuel N. Atwood, who took out a license in 1854 and is now in Florida; John Brown, who was licensed in 1852 and who has just taken H. M. Hanna's yacht Comanche to the Atlantic coast; M. M. Drake, licensed in 1859 and who is now a prominent vessel owner of Buffalo; C. R. and G. F. Cleveland, two brothers, who are still sailing and who first took out licenses in 1858 or 1859. M. H. Murch, now master of one of the Euclid Beach excursion boats at Cleveland, took out his license in 1858, and in the year following a license was secured by Irvin Kennan, now connected with the Ship Owners' Dry Dock Co. J. A. Landfair, who recently retired from the service of the Republic Iron Co., Cleveland, took out a license in the early sixties.

The record for longevity of service among the engineers is not less creditable. Chester M. Stoddard, who was chief engineer of the Lady of the Lake when she was blown up at Fairport, has been a resident of Cleveland, although he is at present in the west. Adam and Thomas Haig, brothers, secured their first licenses in 1854. The former is still in service while the latter has retired. Thomas Daily, who has just retired from the position of inspector of boilers at Detroit, secured papers in 1857, and Thomas Fitzpatrick, now a retired vessel owner, residing at Mentor, near Cleveland, took out papers in 1852 and sailed on both the Western Metropolis and the Crescent City, famous side-wheel passenger steamers of Lake Erie. L. M. Coe of the Cleveland City Forge was engineer of the old Fountain City, and is among the veteran engineers. Wm. H. Prince, still quite active, has thirty-four issues of license, and Samuel Wells, engineer of the steamer Roman, has thirty-nine issues; James Savage, who was in active service last year, has forty issues.

Superior City Loads 7,642 Net Tons.

A dispatch, just as the Review goes to press, from Mr. H. A. Barr, dock superintendent at Escanaba, states that the steamer Superior City, owned by A. B. Wolvin of Duluth and built by the Cleveland Ship Building Co., loaded for South Chicago, Wednesday, a cargo of 7,642 net tons of ore. The Superior City's load is, of course, far in excess of any cargo ever moved on the lakes, and this performance, exceeding by so many tons the long-anticipated 7,000-ton mark, will naturally attract the greatest attention. The previous records surpassed included that established by the Superior City on her initial trip, when she took from Two Harbors to South Chicago, on a mean draft of only 16 feet 10 inches, a cargo of 6,893 net tons. In all these figures an allowance of 1 per cent. has been made for moisture. Cargo records corrected to date are as follows:

Iron ore—Steamer Superior City, owned by A. B. Wolvin of Duluth, 6,823 gross or 7,642 net tons, Escanaba to South Chicago, draft of — feet — inches; steamer W. R. Linn, owned by C. W. Elphicke and others of Chicago, 5,638 tons gross, or 6,314 net, Escanaba to South Chicago; schooner Amazon, James Corrigan of Cleveland, 5,631 tons gross, or 6,307 net, Duluth to South Chicago draft of 17 feet 1 inch.

Grain—Steamer W. R. Linn, C. W. Elphicke and others, Chicago, 232,000 bushels of corn, equal to 6,496 net tons, South Chicago to Owen Sound; steamer Andrew Carnegie, Wilson Transit Co. of Cleveland, 230,000 bushels of corn, equal to 6,440 net tons, South Chicago to Owen Sound; steel schooner Australia, James Corrigan of Cleveland, 210,539 bushels of wheat, equal to 6,316 net tons, Chicago to Buffalo; steamer Andrew Carnegie, Wilson Transit Co. of Cleveland, 332,100 bushels of oats, equal to 5,313 net tons, Manitowoc to Buffalo.

Coal—Schooner Polynesia, James Corrigan of Cleveland, 5,654 net tons of bituminous, Cleveland to Duluth, 16 feet draft; steamer Carnegie Wilson Transit Co. of Cleveland, 5,369 net tons of bituminous, Cleveland to Duluth.

Vessel men will be pleased to learn that improvements of an extensive character for handling coal in the Portage Lake district are nearing completion. The new coal dock and hoist of the Mineral range road at Hancock have been thoroughly tested by the unloading of a number of boats during the last ten days. The hoist has a capacity for handling about 1,500 tons of coal in ten hours. Work is being pushed on the new Calumet & Hecla dock at South Lake Linden, and a large force of men are at work at Dollar bay, where the foundation is about completed for a large structural iron dock adjoining the Tamarack-Osceola dock.

More Than a Million Tons in Excess of Last Year.

As had been expected, the early opening of navigation and increased capacity of the lake fleet has resulted in an increase of more than a million tons over last year in the movement of freight of all kinds to and from Lake Superior. Reports from both canals to June 1 show an aggregate of 3,372,347 net tons of freight passed through the canals to June 1, as against 2,204,955 tons to June 1, 1897. The principal gains, as shown by the tables, are in iron ore, coal, and grain other than wheat. Shipments of wheat are nearly 6,000,000 bushels less than to June 1, 1897, but in grain other than wheat there is an increase of nearly 5,000,000 bushels. Ore shipments aggregate 1,824,592 net tons, against 890,305 net tons to June 1, 1897. The increase in shipments of bituminous coal is about 250,000 tons. Following is a full summary of canal commerce to June 1 of each year for three years past:

MOVEMENT OF PRINCIPAL ITEMS OF FREIGHT TO AND FROM LAKE SUPERIOR.

ITEMS.	To June 1, 1898.	To June 1, 1897.	To June 1, 1896.
Coal, anthracite, net tons	62 821	52,960	64,163
Coal, bituminous, net tons	576,009	339,389	409,491
Iron ore, net tons	1,824,595	890,305	1,343,284
Wheat, bushels	5,751,941	11,513,671	14,279,954
Flour, barrels	1,419,270	1,240,585	1,029,916

REPORT OF FREIGHT AND PASSENGER TRAFFIC TO AND FROM LAKE SUPERIOR, FROM OPENING OF NAVIGATION TO JUNE 1 OF EACH YEAR FOR THREE YEARS PAST.

EAST BOUND.

ITEMS.	Designation.	To June 1, 1898.	To June 1, 1897.	To June 1, 1896.
Copper	Net tons	26,790	23,984	25,085
Grain	Bushels	8,797,647	3,934,497	4,275,098
Building stone	Net tons	445	.....	1,907
Flour	Barrels	1,419,270	1,240,585	1,029,916
Iron Ore	Net tons	1,824,595	890,305	1,343,284
Iron, pig	Net tons	8,149	.....	3,083
Lumber	M. ft. b. m.	122,261	107,574	110,816
Silver ore	Net tons	.....	.....	.....
Wheat	Bushels	5,751,941	11,513,671	14,279,954
Unclassified freight	Net tons	44,442	31,139	17,110
Passengers	Number	858	594	1,053

WEST BOUND.

Coal, anthracite	Net tons	62,821	52,960	64,163
Coal, bituminous	Net tons	576,009	339,389	409,491
Flour	Barrels	42	.....	62
Grain	Bushels	250	.....	1,109
Manufactured iron	Net tons	41,349	19,584	14,894
Salt	Barrels	44,749	58,735	33,812
Unclassified freight	Net tons	72,224	52,731	59,738
Passengers	Number	1,432	820	930

SUMMARY.

	To June 1, 1898.	To June 1, 1897.
East bound freight of all kinds, net tons	2,614,295	1,731,559
West bound freight of all kinds, net tons	758,052	473,396
	3,372,347	2,204,955

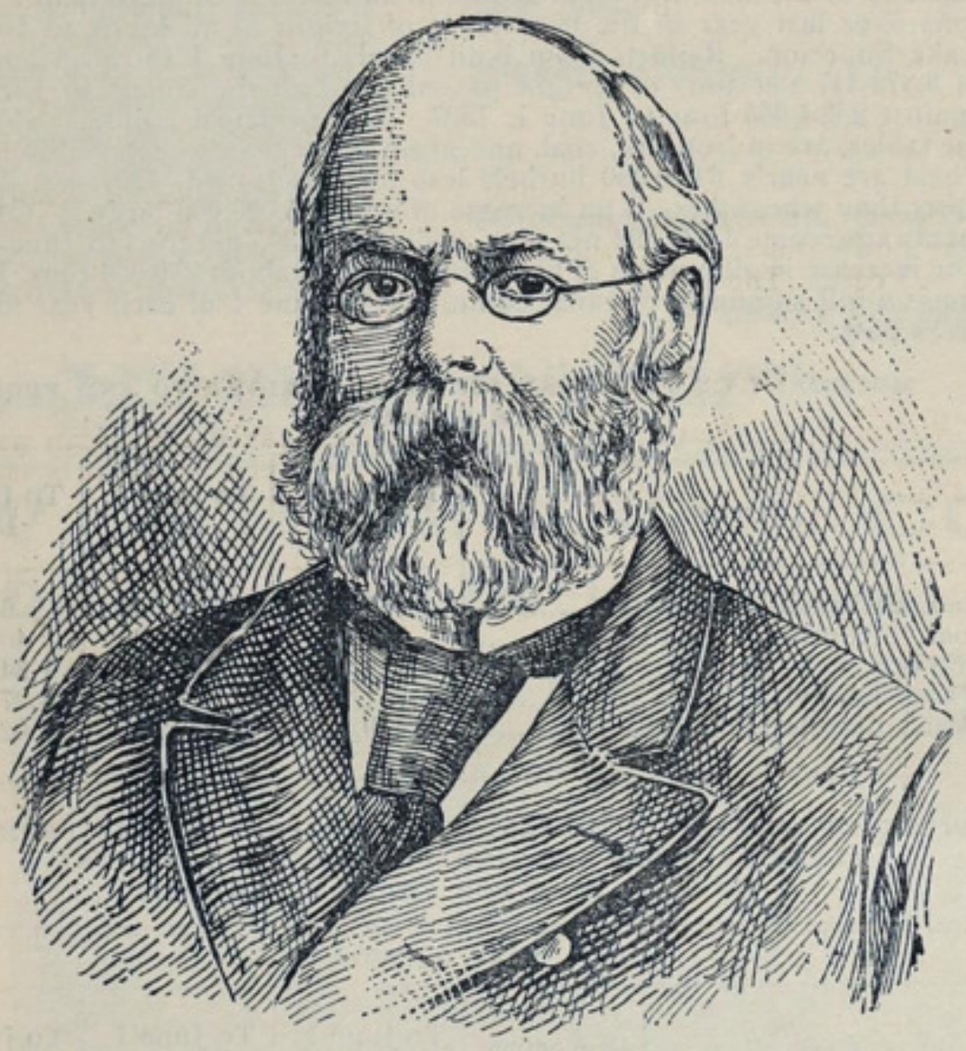
Total number of vessel passages to June 1, 1898, was 3,305, and the registered tonnage 3,229,014.

Senator's Damages.

The steel steamer Senator, recently released from Ballard's reef, arrived at the Cleveland Ship Building Co.'s dry dock at Lorain, Thursday morning, and an examination disclosed the fact that at least ten days or two weeks will be required for her repairs. About forty plates will have to be removed, although a number of them can be re-rolled and replaced. The accident occurred when the Senator was coming down with 5,000 tons of ore. She was crowded to the American side near Ballard's reef by an up-bound tow at 2 o'clock in the morning, and went on a rock close to the second gas buoy. She struck on the starboard side and rolled over to port, and was nearly in that position when a wrecking vessel arrived. No attempt was made to lighter, and after two hours' work she was pulled off. The hole, which is all on her starboard side, was stuffed with canvas, and with a steam pump aboard she proceeded to Cleveland and discharged her cargo.

Samuel Plimsoll of Load-Line Fame.

Samuel Plimsoll, known throughout the world as "the sailors' friend," died in London a few days ago. Mr. Plimsoll was born at Bristol in 1824 and was elected to parliament by the liberals of Derby in 1868, remaining as the representative of that town until 1880, when he gave up his seat to Sir William Vernon Harcourt. He entered parliament expressly for the purpose of helping the sailors and gave up his seat for the same reason, thinking that Harcourt, a cabinet minister, might be able to render better service to the sailors' cause than a member. In parliament he was instrumental in securing the passage of several important acts amending



SAMUEL PLIMSOLL.

the shipping laws. He was the originator of the famous "Plimsoll mark," to prevent the overloading of vessels, and won fame by his advocacy of the load-line question. Only a few years ago, although advanced in age, Mr. Plimsoll wrote to this country, urging American sailors to again take up the load-line question and other measures similar to the English act providing for the inspection of provisions, water, etc., put aboard seagoing vessels. Mr. Plimsoll was at one time president of the National Amalgamated Sailors' and Firemen's Union of Great Britain and Ireland.

New Crop Prospects.

From the manner in which lake shipments have dropped off at Chicago, vessel men have about concluded that the grain to go out of the country has all been moved. The slump in Chicago shipments has had a most depressing effect on the lake freight market, but the ship owners, always hopeful, are encouraged by the favorable outlook for an immense new grain crop. Dun's review of trade for the past week, in speaking of the wheat market, says. "Those who were nearest the truth last year now predict about 700,000,000 bushels for 1898, and all accounts make acreage much larger and conditions much better than a year ago. Above all in significance is the wholy unprecedented demand from agricultural implement works, which throw in the shade all their past orders."

The heavy movement of grain by lake since the opening of navigation is reflected in reports of exports from Atlantic ports. The amount of grain shipped from Philadelphia this year up to last week was more than 19,000,000 bushels, an increase of nearly 5,000,000 bushels over the corresponding period of last year. Shipments from Baltimore during the month of May surpassed all previous records. One hundred and seventy-two vessels cleared from Baltimore for foreign ports—a greater number than ever before cleared from that port in an equal length of time—and of this number seventy-five had entire or partial cargoes of grain. Shipments during the month were: Wheat, 1,500,132 bushels; corn, 5,412,899 bushels; oats, 987,970 bushels; rye, 329,887 bushels.

Government Work is Slow.

Government work is proverbially slow and the dates of departure of the United States revenue cutters Algonquin and Onondaga, now nearing completion at the yards of the Globe Iron Works Co. in Cleveland, is in each case largely problematical. Officials of the company have anticipated the departure of the Algonquin each week for several weeks past, but the edicts of the government inspectors have made necessary a number of changes, involving unexpected delays. The Onondaga will in all probability not be ready to leave Cleveland for fully two months. Superintendent Newman of the Globe company is confident that the Algonquin will develop a speed of 19 knots on her government trial, which is to be made on her trip from Cleveland to Ogdensburg, where the vessel will be cut in two in order to permit of her passage through the canals. In speaking of the matter Supt. Newman said: "I am confident that the Algonquin will make 19 knots easily. The test the other day was made inside the breakwater, where the water is not very deep, and I am sure that in Lake Ontario, where the water is deeper, she will easily attain 19 knots. The Gresham on her trial trip made 18.25 knots."

Capt. Chas. V. Gridley.

Men connected with lake vessel interests generally learned with regret of the death of Capt. Gridley, until recently inspector of the tenth light-house district, the announcement of whose demise was communicated to Secretary Long by Paymaster Galt of the navy in a cablegram from Kobe, Japan, dated June 4. As the result of injuries received while acting as commander of the Olympia, Admiral Dewey's flagship in the battle of Manila, Capt. Gridley was condemned by a board of medical survey and "invalided" home, but the exact nature of his injuries was not communicated in the dispatches. He left for home on the steamer Coptic, which sailed from Hong Kong on May 20, but died before the vessel reached Kobe.

Capt. Gridley was born at Logansport, Ind., in 1845, but when he was quite young the family removed to Hillsdale, Mich., from which place he was appointed to the naval academy. In 1863 young Gridley was promoted to ensign and ordered to the steam sloop Oneida, then with the west gulf blockading squadron, in which squadron he remained until the close of the civil war. At the close of the war he was assigned to the steam sloop Brooklyn, the flagship of the Brazilian squadron. In the four years succeeding the war he was promoted to master, lieutenant, and finally lieutenant commander, serving successfully on the Michigan, Monongahela and at the Annapolis academy. In 1879 he was made executive officer of the flagship Trenton on the European squadron, and then followed years of service in the Boston navy yard and as commander of various training ships. In July, 1887, he was made inspector of the tenth light-house district and stationed at Buffalo, where he served until October, 1891. For about ten months he was then assigned to special duty at the navy yard at Washington, and then came back as inspector of the tenth light-house district, in which position he remained until July, a year ago, when he was appointed to command the Olympia.

Admiral Dewey had such confidence in Capt. Gridley that during the battle of Manila he did not once interfere with his handling and management of his vessel and the broadside which sunk the flagship of the Spanish squadron was Gridley's own conception. Capt. Gridley's wife and three children reside with Mrs. Gridley's father, Judge Vincent, at Erie, Pa.

Capt. Gridley is succeded on the Olympia by Capt. Ben. P. Lamberton, also well known on the lakes on account of light-house service. Both of these officers were among the men promoted by congress in recognition of their services at Manilla under Admiral Dewey. Capt. Gridley was advanced six numbers and Capt. Lamberton seven numbers. Promotion in the navy is, of course, strictly governed by seniority of service and the "advanced numbers" is a notification that the men named are placed in advance of the number of officers designated who would otherwise have received promotion before them.

No Registered Mail on Detroit River.

Postmaster F. B. Dickerson of Detroit has issued an announcement to the effect that registered mail cannot be received or delivered through the marine postal service at that port. The conditions of receipt and delivery in the marine service have been thoroughly considered by the postoffice department and the decision has been reached that an extension of the registry system thereto is impracticable. This is the result of an application from Postmaster Dickerson for a modification of the regulations so as to permit those on passing vessels to register valuable mail matter through the carrier who receives ordinary mail matter. Denial of the request from the department notes that such a proceeding would be a departure from the rules, which could not, for good reasons, be permitted. Delivery of registered matter to those on passing vessels is not practical, according to the holding of the department, for the reason that the conditions do not permit of the fulfillment of the guarantee of accurate delivery, which depends for its establishment on obtaining the signature of the person addressed. Indeed safe transit and accurate delivery are supposed to be the special functions of the registry system.

Another Big Floating Dock.

The fact that the United States government will, within a short time, ask for bids for the construction of a large floating dock, to be stationed at New Orleans for the repair of naval vessels, adds interest to the launch at the yard of Swan & Hunter at Wallsend-on-Tyne of a large floating dock for the Vulcan company of Stettin. Principal dimensions of this dock are: Length over all, 510 feet; breadth, extreme, 110 feet 9 inches; height from bottom of pontoon to top of walls, 43 feet 7 inches. The internal width is sufficient to allow vessels up to 82 feet beam to be docked, and the depth over the keel blocks is 24 feet. The maximum lifting power is about 12,000 tons. The machinery consists of two sets of compound engines of 125 horse power each, and two boilers of the marine type, in each wall. Each engine is connected to two 15-inch centrifugal pumps, and the entire machinery is capable of lifting a ship of about 11,000 tons displacement in 2½ hours. The dock as a whole is divided into thirty-eight watertight compartments, each filled or emptied by separate valves and controlled from a valve-house on the top of each wall. The dock is what is known as the self-docking type, that is to say, access to all the external surfaces is possible either for painting or repairs. The dock longitudinally consists of two side walls, between which are connected three pontoons, the center one being 240 feet long and the two end pontoons 135 feet.

The contract for the dock was signed on Oct. 23, 1897, and the first plate was laid on the blocks Nov. 17, so that from the time there was any visible progress made to the date of the launch, six months have elapsed, which beats the performance in the case of the Havana dock, built recently by the same firm for the Spanish government. That dock was seven months in course of construction from the date of laying the first plate to the date of the launch, and the Stettin dock exceeds the length of the Havana dock by 60 feet.

Home Seekers' Low Rate Excursion via the Nickel Plate Road.

To designated points northwest, west and southwest; also to designated points in the south. June 7th and 21st. Ask agents. 57. June 20.

Rockefeller Interest and Independent Mine Owners.

One of the several correspondents in the Lake Superior mining region who write occasionally for the trade papers adds the following paragraph to a letter dealing with various details of mine operations on the different ranges:

"The Mountain Iron mine has recently placed a centrifugal pump of 1,000 gallons per minute capacity in its big open cut. With the depletion of the ore reserves the Mesabi mines must add to the costs of mining to take care of the water and furnish the additional power required to raise the ore. Such little matters were not thought of when the first steam shovel mines were opened, but they are being carefully calculated upon now and the operators of Mesabi mines who see furthest ahead are among the men who believe that some sort of an agreement to maintain living prices will be required next year. If it were really the plan of the Rockefeller people to crush the independent mines, the crushing could be accomplished, even with a reduction in rail freights, unless some agreement to maintain fair prices is secured. That it is not the object of the Rockefeller people to crush competition may be difficult of belief to some of the unfortunates who are tangled up in unprofitable mining deals; but such is the fact. Mr. Rockefeller is merely in the field to make as much money as possible out of his mines, his railroad and his fleet of steamers. An increase in Mesabi ore prices to an equable figure would help him in many ways. It would add to the profits on his own ore. It would help the other mine owners, and, as they ship their ore over his road, it would help him by helping them. It would also be apt to help lake freights, though this latter contingency is not assured, and Mr. Rockefeller personally owns one of the greatest fleets now sailing upon either fresh or salt water—all engaged in the carrying of iron ore. If the operators of independent Mesabi mines will quit exchanging mutually unfavorable opinions of Mr. J. D. Rockefeller in the Spalding house lobby for a few weeks and devote their time to a careful and collected view of the situation as it exists, not as they think it might, could, should or would exist, they will appreciate the force of this well-meant advice. It may at first strike them as unfriendly, but the man who offers the most sympathy is not always the person who offers a feasible means of relief."

Fear of What the Government Will Do With Auxiliary Ships.

The fact that, despite the purchase of more than a hundred thousand tons of sea-going American steamships by the government for auxiliary war and transport service, with one exception, no orders have been placed with American ship builders on the Atlantic coast to duplicate the tonnage so purchased, has been the subject of more or less discussion in eastern marine circles. The prevailing impression is that the apparent stagnation is caused by the fear on the part of vessel owners that should they order new vessels they will be brought into competition with second-hand auction offerings in the form of the vessels recently purchased by the government, that being their probable disposition at the close of the war. In discoursing upon some of the disadvantages of this phase of the situation, the New York Commercial says:

"For the present, at least, the war is neither helping American ship owners or ship builders, and because of the uncertainty of the tonnage to be sold by the government, everyone seems to be afraid to order new ships. Congress could very easily, effectively and permanently relieve this condition of affairs by passing legislation—long pledged by the party in control of the government—that will create a preference for American ships in the foreign trade, in which foreign ships, to the extent of millions of tons, are now engaged. Immediately there would be an assured employment for the second-class tonnage that the government will finally sell at low prices, besides an inducement undoubtedly sufficient to cause the placing of orders for additional tonnage in our ship yards wholly for the foreign trade. Added to this the demand that would thus be created for the construction of new steamships for our coastwise service would fill our ship yards with employment probably for years to come."

Steam Turbine from a Commercial Standpoint.

A discussion in the British parliament, recently, regarding the application for a prolongation of the patent rights of the steam turbine to Charles Algernon Parsons for five years, brought out some interesting, because rather surprising, facts regarding the success of the invention from a financial standpoint. Lord Macnaghten, in announcing the favorable decision of the house of lords upon the application, stated that the invention was one of conspicuous merit, inasmuch as it solved a problem which for a hundred years and more baffled the ingenuity of inventors. Previous to Mr. Parson's attempt no one had, he said, succeeded in producing a steam turbine of practical utility. As evidence of the disappointment which the invention has proven from a pecuniary point of view, however, it was shown that Mr. Parsons has lost $5,535 on the English patent and $1,010 on the foreign patents, exclusive of the application of the invention to marine propulsion and without charging anything for his services. He received $25,000 for the United States and Canadian patents and $4,250 for royalties.

In January, 1894, Mr. Parsons granted to the Marine Steam Turbine Co. an exclusive license to use for marine propulsion only the patent in question with a large number of others belonging to him, and in consideration of that license he received $45,000 in fully paid shares in the company, which had an issued capital of $120,000 out of a nominal $125,000. In order to demonstrate the effect of steam turbines as applied to marine propulsion, the company built and equipped the Turbinia, at a cost of $80,000, Mr. Parsons executing all the work for the company at net cost and making no charge for his own services. When the success of the Turbinia was assured, a new company, known as the Parsons' Marine Steam Turbine Co., was formed with a nominal capital of $2,500,000 to purchase the license and the Turbinia, the purchase price being $150,000 in cash and $400,000 in shares, together with certain royalties and shares in the event of further issues of capital. It was shown finally that the only remuneration Mr. Parsons had received for his invention consisted of his interest in the new company and certain royalties. The prolongation of the patent for five years was therefore recommended.

A Lake Exhibit at the Omaha Exposition.

Lake marine interests will not be extensively represented at the Trans-Mississippi and International Exposition at Omaha, but the representation will nevertheless be thoroughly creditable. Prominent in the display will be models on the scale of one-quarter inch to the foot, of the 400-foot steamer Superior City, recently completed by the Cleveland Ship Building Co. for the Zenith Transportation Co., and the Duluth, Mesabi & Northern Ry. docks at Duluth. The model of this vessel is to be the joint exhibit of the owner and the builders, and considering the fact that the entire work of making the miniature boat was performed at the shops of the Cleveland Ship Building Co. and by its own cabinet makers, the product is truly remarkable, and may be said without exaggeration to compare very favorably with the models shown by English ship builders at the World's Columbian Exposition, and which were in most cases manufactured by a Scotch concern whose attention is devoted exclusively to the manufacture of vessel models.

In the Cleveland Ship Building Co.'s model the smallest details are reproduced on the accurate proportionate scale, even to the water buckets on the deck, and the workmanship and painting gives evidence of both skill and care. The models will both be shipped to Omaha within a few days.

One Great Lesson from the War.

Whatever may be the result of the present Spanish-American war in the acquisition of territorial possessions to the United States, it is safe to say that a benefit incalculably greater will be derived from the stimulus imparted to the Nicaragua canal project. The lessons of the present war will certainly bring about a full appreciation of the importance of this great project. That the Nicaragua canal, had it been completed, would have been a very prominent factor in the present international struggle must be apparent to any person who has made even a superficial study of governing conditions. Its existence, if it did not exactly increase the naval resources of the United States, would at least have broadened the adaptability of the resources at hand.

A junction between the fleets in the Atlantic and the Pacific has been to all intents a practical impossibility, and yet a moment's thought will demonstrate that only to a series of fortunate circumstances may there be attributed the absence of necessity for just such a movement. Moreover, the 13,000-mile voyage of the battleship Oregon, in the face of unknown dangers, when a trip of a few thousand miles would have sufficed had the canal been in existence, is an object lesson of considerable potency.

But better than all these circumstances as an inducement of activity in the furtherance of the canal scheme is our acquisition of the Philippines. Should the United States decide to hold the islands, as would now seem both right and probable, it will be in no sense visionary to anticipate the almost immediate transformation of Manila into the naval and trading base of the Chinese seas so far, at least, as this country is concerned. At once the imperative necessity of the Nicaragua canal as an adjunct becomes apparent. There is no reason to gainsay the statements of those engineers and experts who have asserted that the canal would prove of greater benefit to America than the Suez canal has to Europe. Not only would it bring Japan, Australia and China nearer to the principal ports of our Atlantic seaboard than they are to England, thus imparting an impulse of immense proportions to the commerce, the ship building industry and the naval development of the nation, but it would tend to provide markets for American goods and indirectly to afford a further stimulus to the now eagerly anticipated growth of the American merchant marine.

Same Old Stories About the Pewabic.

The wrecking vessel Root, with the diving bell of the American Wrecking & Salvage Co. of Milwaukee, has proceeded from that port to the scene of the wreck of the steamer Pewabic on Lake Huron, and will continue again this summer the work of recovering her cargo. Simultaneously with this announcement there has come again the circulation of the same old story, long since worn threadbare, to the effect that untold treasure lies buried in the wreck. Capt. George P. McKay of Cleveland, who was in command of the Pewabic when she was sunk years ago in collision with the Meteor, has repeatedly denied stories of the wreck containing anything of particular value, other than the copper that constituted the great bulk of her cargo. He has given up to everybody who sought it, including the Milwaukee wreckers, full information regarding the location of the Pewabic and everything she had aboard when sunk. The vessel was located through directions which he gave to the Milwaukee company. The Root is in command of Capt. W. G. Phelps of Saugatuck, Mich., while George Campbell of Milwaukee is to superintend the work upon the wreck. He has a crew of twelve men, including the Indian diver, Kiosh.

The Root last year removed from the wreck, in 160 feet of water, copper valued at $7,000. Considering the depth of water the feat has no parallel in wrecking on the lakes. From the interior of the bell the diver was enabled to fasten movable arms on the outside to very large pieces of copper and to adjust carriers by which they were hoisted to the surface. The wreckers estimate that $40,000 would accrue from the recovery of the entire cargo.

Manufacturers of lumber in the Puget sound district are finding a market for their product among European ship builders. A Hamburg ship building firm has placed an order for 1,000,000 feet of decking with the Puget sound mills, for loading next November and December. The Tacoma mill is also filling an order for 300,000 feet of material for the United States navy.

The name of Gridley will in all probability not be dropped from the naval register. The secretary of the navy has been requested to recommend the appointment of the son of the late commander of the Olympia to a cadetship at Annapolis.

One-Fare Sunday Excursions.—Tickets are on sale from all stations on Nickel Plate road. 65, June 30

Important Supreme Court Decision.

Washington, D. C., June 8.—The United States supreme court has handed down a decision in the case of Flint, Eddy & Co., appellants, against George Christall and James Greig, trustees, appellees. The case came up from the United States circuit court of appeals for the second circuit. The supreme court, by its decision, holds that where a vessel, seaworthy at the outset, is afterward stranded by the negligence of her master, the ship owner, though exercising due diligence to secure seaworthiness, proper manning and equipping and supplying, under section 3 of the act of Feb. 13, 1895, (Harter act), has no right to general average contribution for sacrifices and suffering by him subsequent to the stranding, in successful efforts to save vessel, freight and cargo.

The supreme court thus reverses the decision of Judge Brown of the United States district court, New York. This decision will have an important bearing on several lake cases. The Christall-Flint case, as decided by District Judge Brown, will be found in Federal Reporter, volume 82, page 472. The question above decided was certified to the supreme court by the court of appeals for the second district. District Judge Brown, whose decision is now reversed, said in this case:

"Where due diligence has been exercised to make the ship seaworthy, and a common danger arises upon the voyage by 'fault or error in the navigation or management of the ship,' the third section of the act of Feb. 13, 1895, (Harter act), declares, that 'neither the vessel nor her owner, agent or charterer shall become or be held responsible for damage or loss resulting therefrom.' The previous liability of the ship owner to the cargo owner for faults of navigation is thus abolished in all cases coming within the act. In such cases faults in the navigation or management of the ship are no longer, by construction of law, faults of the owner, as heretofore; and the ship and her owner are now no more liable to the cargo owner for his damages therefrom than the latter is liable to the ship owner for the resulting damages to the ship. Both are alike strangers to the fault, and equally free from all responsibility for it; and hence all expenditures or losses voluntarily incurred for the common rescue are no longer made in the discharge of an individual legal obligation, or in diminution of a fixed liability resting upon one of the parties only, but are truly a sacrifice, voluntarily incurred, and for the common benefit, as much and as truly when made by the ship owner as when made by the cargo owner alone. On principle, therefore, in such cases, the one is as much entitled to a general average contribution for his sacrifices as the other."

Lake Levels.

Water in all of the lakes, excepting Lake Superior, is higher than in May a year ago, and vessels are generally carrying larger cargoes. Vessel men will be interested, however, in the following table from Secretary Keep of the Lake Carriers' Association, showing levels of the various lakes for the month of May and comparing the same with May, 1897, and with the general average of the level of the lakes, as well as the general average of each lake for the month of May:

COMPARATIVE REPORT OF LAKE LEVELS.

Lake.	Point of Observation.	Mean level May 1897.	Mean level May 1898.	Mean level of lake.	Mean level of lake for May.
Superior	Marquette	601.89	601.12	601.46	601.41
Michigan	Milwaukee	579.99	580.38	581.16	581.37
Huron	Sand Beach	579.97	580.12	581.06	573.35
Erie	Erie	572.79	572.98	572.86	573.35

RECAPITULATION.

Lake Superior in May, 1898, was 9½ inches lower than in May, 1897; 4 inches below the general average lake level and 3½ inches below the average level for the month of May.

Lake Michigan in May, 1898, was 4 2-3 inches higher than in May, 1897; 3 inches above the general average lake level, and neither above nor below the average level for May.

Lake Huron in May, 1898, was 2 inches higher than in May, 1897; ¾ inch above the general average level of the lake, and neither above nor below the average level for the month of May.

Lake Erie in May, 1898, was 2¼ inches higher than in May, 1897; 1½ inches above the general average level of the lake, and 4¼ inches below the average level of the lake for May.

The plane of reference used is the mean tide level of the ocean in New York harbor, the figures in all cases showing in feet the height of the lake levels above this plane. The averages cover various periods of observation from twelve to thirty-eight years.

How the Record Was Sunk.

Peculiarity to a degree distinguished the accident whereby the Inman tug Record was run down and sunk in Duluth harbor, a few nights ago, three of the four members of the tug's crew being drowned. The accident occurred at about 11:30 p. m., the night being very dark. The steel steamer Robert L. Fulton of the Bessemer fleet, Capt. Henry Stone, was entering the harbor at reduced speed, and was just opposite the entrance to the canal when the tug Record attempted to take her line. The tug had just dropped back to take the line when she got across the Fulton's stem and was struck squarely amidships, keeling over and going down like a stone. There were many contributing factors to the accident. A strong northeast wind was blowing, and this, combined with the high water resultant from recent rains, caused a strong current, that by reason of the characteristics of the harbor entrance resolved itself into an outward suction. It was this suction which drew the tug across the bow of the Fulton. There is ground for suspicion that the trough formed by the suction was of such a nature that the tug would have been in danger of having been drawn under the steamer, even had the latter not been moving at all. An eye-witness has given it as his opinion that had the bow of the Fulton struck the tug 10 feet either side of where it did, the tug would have careened about and escaped.

Capt. Inman is raising the Record. She was insured by Smith, Davis & Co. of Buffalo for $4,000, and they are co-operating on the wrecking job.

The War and the Revenue Cutters.

The contingencies of the present war have developed a considerable degree of uncertainty as to the lines to be followed in the future administration of the revenue cutter service and the ultimate disposition of the vessels of that service after the conclusion of the conflict. Officials of the revenue cutter service started out, some time ago, to provide a complete new equipment, or to be more exact, to replace their old cutters, most of them of antiquated design and inadequate capacity, with new modern vessels. The evidence of the pursuit of this policy is found in the construction of the first-class cutters Manning and McCullough on the coast and the Gresham, Algonquin and Onondaga on the great lakes. Moreover, the sundry civil appropriation bill, on the eve of passage by congress, makes provision for the construction, at a cost of $45,000 each, of two revenue cutters, one to replace the Hamlin for harbor service at Boston and the other to replace the Washington for harbor service at Philadelphia; and for construction of two cutters at a cost of $160,000 each, one to replace the Seward for service in the Gulf of Mexico and the other to replace the cutter Colfax for service at Charleston, S. C., and on the Atlantic coast; and for the construction at a total cost not to exceed $250,000 of a revenue cutter for service in the vicinity of the Columbia river bar, Pacific coast.

All of the five revenue cutters completed or nearing completion have been transferred from the treasury to the navy department, but they will, of course, be transferred back immediately upon the cessation of hostilities, and the new development which furnishes the chief animus for the uncertainty of the future outcome is found in the transfer from the lakes to the coast of the revenue cutters Gresham, Algonquin and Onondaga. No one at all conversant with the situation has the slightest belief that these vessels will ever return to the lakes, and officials of the revenue cutter service generally are free in the expression of this opinion. It would seem likely, on the other hand, that the lake cutters would be pressed into service at the ports for which new vessels are provided by the sundry civil bill, during the interim required for the construction of these new vessels. This would be a thoroughly practicable scheme, say for the service at Charleston, S. C., and in the Gulf of Mexico. By the time the vessels provided for in the bill were ready for commission, other and permanent stations on the coast would doubtless be provided for the lake cutters.

Lieut. J. H. Quinan of the construction department of the revenue cutter service, who has for some time past been in Cleveland superintending the construction of the revenue cutters Algonquin and Onondaga, gave his views of the ultimate outcome of the matter to the Review as follows: "In my opinion, the extreme unlikelihood that the Gresham, Algonquin and Onondaga will return to the lakes is due primarily to the fact that they cannot be gotten through the canals without cutting them. I am of the opinion that new cutters will be built for the lake service and that they will not exceed 180 feet in length with a draft of 9 feet. The three new lake cutters are 205 feet in length, and, although their mean draft is 10 feet, their draft at the bow is about 11 feet. The length of 180 feet is the same as that of the United States gunboats and would provide a boat of ample size for aggressive work in the event of trouble, while the size and draft would enable the vessels to go anywhere on the lakes. This you will remember has sometimes been impossible in the case of the Gresham. Of course, no appropriation for these new lake cutters would probably be available for more than a year, at the very least, but then you build boats very rapidly out here on the lakes, and I do not believe that any considerable inconvenience would result during the interim."

Depressed Condition of the Freight Market.

It is time to quit. Some of the wooden vessels, even of the larger class, must be laid up. The ore business, heavy as it is, will not stand the pressure of tonnage diverted from the grain trade on account of a sudden ending of shipments from Chicago. Then, too, there is a decided scarcity of labor in the Lake Superior region, and the ore movement, although very heavy, is not as large as was expected. But the deep water, big ships and early opening of navigation are, after all, the factors that are acting against profitable freights. The freight movement to and from Lake Superior to June 1 is more than a million tons in excess of last year. Vessel owners who refused 60-cent ore and 20-cent coal some time ago would be pleased to load up now with contracts based on these figures, but the great bulk of the ore and coal has been covered and those who have it are congratulating themselves. The manager of one of the coal concerns, who has about 400,000 tons covered by freight contracts at 20 cents a ton, says this is more coal than his firm had covered in three previous years. In the past they trusted largely to charters from day to day, but when they found big vessels this year ready to take coal for about the full season at 20 cents, they decided that the figure was the lowest that could be expected and they covered their sales fully. The same was the case with nearly all the big coal and ore concerns. The present situation is best explained by a contract made a few days ago. Three hundred thousand tons of ore was placed on the market on account of delay in completing certain new vessels now under way in one of the ship yards, and it is understood that this ore, to be moved from the head of the lakes, was covered at 50 cents for June, July and August, and 55 cents for September and October.

Wheeler Ship Yard.

The ship yard of F. W. Wheeler & Co. at West Bay City will be opened up in a few days for the completion of the Bessemer company's three steel vessels. The vessels will be completed under the direction of the Bessemer company, which has taken charge of the works, but the ship yard force will be the same as it has been, and to all appearances there will be no change at the plant. There is a great deal of talk as to the future of this ship yard. Will John D. Rockefeller buy it through any claims that he may have and remove it to Conneaut? Will Mr. Wheeler's partners, who are wealthy, succeed in settling with the creditors and continue the works? Will James Davidson, who is said to have had his eye on the plant for a long time, attempt to gain control of it? These are questions that have been asked repeatedly within the past week, but the answers to them are all speculative.

Around the Lakes.

Capt. David Baker, at one time a well-known vessel master, died at his home in Detroit a few days ago. He first went to sea in a whaling vessel at fifteen years of age.

A new marine railway has been completed at Oades' ship yards at Detroit. It will admit of a 50 per cent. reduction in the time necessary to haul a boat out of the water.

A list of lights and fog signals on the coasts, rivers and lakes of the Dominion of Canada, corrected to April 1, 1898, has just been issued by the department of marine and fisheries.

Ore shipments from Two Harbors for the period from the opening of navigation to June 1 aggregated 353,000 tons, as against 256,000 tons during the corresponding period in 1897.

The forward section of the revenue cutter Gresham has been raised by the wreckers at Ogdensburg, and preparations have practically been completed for proceeding to the coast with the vessel.

Canada's minister of railways has denied the request of the Kingston board of trade that the canals be kept open on Sunday. He claims that the opposition of ministers and others is too strong to permit the change.

Capt. L. C. Vosburg, who was for years master of the schooner Emma C. Hutchinson, and who during the past two seasons sailed the steamer Rube Richards, died of consumption at his home in Cleveland last Sunday.

A neat advertising idea in the form of a small card having on one side a chart of Toledo harbor is being sent out by J. T. Solon of Toledo. Mr. Solon will mail one of these cards to any captain who sends in his address.

Capt. Francis Martin, formerly commander of the United States revenue cutter Fessenden, celebrated his ninety-eighth birthday at Detroit, Saturday. Capt. Martin was present at the funeral of Napoleon Bonaparte at St. Helena.

Capt. Finlay McKay of Belle Ewart, Ont., for over fourteen years a sailor on the great lakes, died a few days ago, aged seventy-eight years. Capt. McKay was in 1866 foreman of construction in the Windsor & Detroit railway ferry service.

George Palmer has purchased the steamer Cambria from the Donnelly Wrecking Co. of Kingston, Ont., for $15,000. The wrecking company had spent $5,000 in repairs on her. The Cambria will run between Buffalo and Lake Erie ports.

The Buffalo steamer Brazil has taken her place in the Lackawanna line. She has been in dry dock at Buffalo for several weeks undergoing repairs and receiving new decks, gangways and considerable bottom work, the whole aggregating $10,000.

During the period from the opening of navigation to June 1 the shipments of ore from Ashland aggregated 439,032 tons. Of this amount the Chicago & North Western Railroad shipments amounted to 245,835 tons and the Wisconsin Central shipments to 193,197 tons.

The steamer Cadillac, which was in the Cleveland Ship Building Co.'s dry dock at Lorain for a week, undergoing repairs as a result of her grounding in the Sault river, is again in commission. Eleven plates had to be removed; some were re-rolled and others had to be replaced.

C. F. Stuart, senior member of the firm of C. F. Stuart & Co., dealers in iron ore, and Peter M. Hitchcock, both of Cleveland, have become interested with John T. Jones of Ashland in a project to open and operate the Vulcan silica mine. The gentlemen named have leased the property from the Menominee River Lumber Co.

Abijah Weston, the millionaire lumber man and senior member of the firm of A. Weston & Son, who died at his home at North Tonawanda, Thursday night, was known to vesselmen all around the lakes. He embarked in the lumber business in 1872 and finally became one of the largest dealers in the United States. Mr. Weston owned several lake lumber vessels.

Workmen are engaged in driving the 25,000 piles that will constitute the foundation for the new Northern grain elevator to be erected at Manitowoc. The new elevator, which will be one of the largest in the northwest, will be 600 feet in length and eighteen stories in height, with a capacity of 1,500,000 bushels. The new structure will have a dock frontage of 600 feet.

Business of the marine postoffice at Detroit has shown a decided increase this season. From April 5 to June 1 there were taken from boats 48,844 pieces of first-class mail, a gain of 80 per cent. over the corresponding period last year. During the same period there were delivered to boats 33,409 pieces of first-class mail, a gain of 89 per cent. over the same period last year. The Detroit postoffice authorities again announce that if the gain continues, as now seems probable, a strong effort will be made to have the government build a small steamer that will be specially suited to the service.

A second batch of bids received for the building of a steel fireboat for the city of Chicago were opened a few days ago. Only three bids were submitted—the Racine Boat Manufacturing Co., $66,345; the Chicago Ship Building Co., $68,500; and the Detroit Dry Dock Co., $58,000. On the original advertisement for bids the lowest figures were submitted by the Craig Ship Building Co. of Toledo, which bid $48,000, while the Globe Iron Works Co. of Cleveland bid $58,000. Officials of the Globe company say that the contract would have been awarded to them on their bid had they been willing to agree to have the engines manufactured in Chicago.

The Cleveland hydrographic office, since the departure of Lieut. Stafford, U. S. N., has been in charge of Nautical Expert Graves, who although he has had to attend to the duties of two men, has conducted the work in a manner highly satisfactory to the vessel men and others having dealings with the office. The several hydrographic offices, as well as the collectors of customs in lake cities, have just received copies of this year's list of beacons, buoys and day marks for the great lakes and connecting rivers. The list is corrected up to the opening of navigation, 1898, and mariners are urged especially to report promptly buoys which may be out of position.

New vessels listed in the supplement to the Inland Lloyd's register for June are as follows: Steamer Amazonas, 1,931 net tonnage, owned by James Davidson of West Bay City and valued at $120,000; steamer Orinoco, 1,929 net tons, owned by James Davidson of West Bay City and valued at $120,000; steamer Superior City, 3,694 net tons, owned by the Zenith City Transit Co. of Duluth and valued at $240,000; tug Charles F. Dunbar, 93 net tons, owned by the Maytham line of Buffalo and valued at $30,000; tug Marion, 43 net tons, owned by Hickler Bros. of Sault Ste. Marie and valued at $15,000; steel barge David Z. Norton, 2,926 net tons, owned by the Wilson Transit Co. of Cleveland, and valued at $115,000.

Since the steamer Outhwaite and consort Barr, ashore near Presque Isle, Lake Huron, have been released by Capt. James Reid and brought down to Detroit for repairs at the works of the Detroit Dry Dock Co., there has been considerable speculation as to whether both vessels would be declared a constructive loss as the result of the survey. This latter, which is being conducted by Capt. F. D. Herriman, representing the Prime-McCurdy insurance syndicate of Chicago, and Capt. Daniel McLeod of Cleveland for the owners, has not yet been completed. The probability is that the Outhwaite will be declared a constructive total loss, and that such a decision is not reached in the case of the Barr may be attributed in a great degree to the excellent condition in which she has been kept up by her owners.

The litigation devolving from the sinking of the barge Helena in St. Mary's river by the steamer Mariska on July 25, 1891, and which was supposed to have culminated this spring in a definite settlement, has been revived by the libeling of the Mariska by the owners of the steamer Jay Gould in Chicago this week. The collision, which resulted in the sinking of the Helena was, it has all along been maintained, due to the steamer Jay Gould, which passed close to the Helena just previous to the collision, the suction from the Gould causing the Helena, it is alleged, to sheer from her course directly in front of the Mariska. Last spring the Gould was libeled at the instance of the owners of the Helena, and the case was finally settled for $8,000 damages. The Gould's owners now libel the Mariska in order to make that boat share a portion of the damages. C. E. Kremer had the case for the Helena, and Robert Rae looked after the Gould's interest.

Maj. Thomas W. Symons, of the corps of army engineers with headquarters at Buffalo, has been appointed engineer of the tenth light-house district, relieving Maj. W. S. Stanton of Oswego, who has been ordered to Boston to relieve Major Livermore. Up to a short time ago engineering affairs of the tenth light-house district were under the direction of Col. Jared A. Smith of Cleveland. The work was transferred to the Oswego office, in order that Col. Smith might give attention entirely to river and harbor affairs in the Cleveland district. It is probably the intention of the department to provide a few engineer officers for the Cuban invasion, and when Major Symons takes up this extra light-house duty at Buffalo, the river and harbor work in the Oswego office may be looked after by an officer of inferior rank. It will also be a matter of convenience to have offices of both the engineer and the inspector of the tenth light-house district in Buffalo.

Blue Book of American Shipping.

The 1898 issue of the Blue Book of American Shipping, a volume this year of 575 pages, will be delivered to subscribers during the present week. This directory and statistical record of American shipping is now recognized throughout the United States as the only publication that fully covers these interests. Its value lies mainly in the fact that the Marine Review is thoroughly in touch with everything pertaining to maritime affairs and is thus enabled to prepare each year a reliable and complete work of this kind. Lists of vessels, vessel owners, ship builders, etc., have been revised and enlarged in the 1898 issue. The statistical part of the work has also been enlarged in all cases where it was possible to obtain reliable information, and there are some 100 full-page half-tone engravings in the book.

In the first part of the book, pertaining to the lakes, there are particulars of all American steam vessels and all sail vessels on the great lakes, with names and addresses of owners or managers; statistics of lake commerce; names and addresses of owners of principal fleets; lake ship and engine builders; captains and engineers of lake vessels; cost of operation of principal steamers; illustrations of lake steamers; docks and cargo handling machinery, etc.

A second part contains names of all steam vessels in the United States over 100 tons (lake vessels excepted), and all sail vessels over 100 tons, with names and addresses of owners; directory of the Society of Naval Architects and Marine Engineers; American Society of Naval Engineers; American Association of Masters and Pilots; addresses of ship and engine builders of the United States; names and addresses of concerns owning fleets, including 2,400 of the largest vessels in the United States; names and addresses of purchasing agents of 700 passenger vessels; directory of steamship lines between the United States and foreign ports; principal exports by ports for five years, and other valuable shipping statistics; United States dry dock directory, etc.

In the third part there are lists of principal ship owners and ship builders of the world; a classified directory of numerous concerns that furnish supplies to ships and ship builders; a list also of firms engaged in any way in marine business, this list having been arranged especially for the use of purchasing agents. A directory of marine business concerns arranged according to ports is also contained in this part of the work.

The first of the monthly summaries of finance and commerce, issued under the direction of O. P. Austin, new chief of the bureau of statistics, treasury department, contains a most interesting series of tables on the commerce of the Philippines and adjacent countries.

E. L. Corthell, the well-known Chicago engineer, who has been in Europe for some time past, contributes to the current number of the Engineering Magazine an illustrated article on "European Sea-going Dredges and Deep Water Dredging."

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MARINE REVIEW

DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

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The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows.

	Number.	Gross Tonnage.
Steam vessels	1,775	577,235.45
Sailing vessels and barges	1,094	394,888.87
Canal boats	361	37,978.28
Total	3,230	1,410,102.60

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

Year ending June 30, 1893	175	99,271.24
" " " 1894	106	41,984.61
" " " 1895	93	36,352.70
" " " 1896	117	108,782.38
" " " 1897	120	116,936.98
Total	611	403,327.91

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages	17,171	18,615	17,956	2,986	3,406	3,434
Tonnage, net registered	17,619,933	17,249,418	16,806,781	7,899,374	8,560,284	8,448,383
Days of navigation	234	282	231	365	366	365

Civil Engineer A. G. Menocal of the United States navy, upon whom was placed the blame for the faulty construction of the big timber dry dock, No. 3, at the Brooklyn navy yard, has been found guilty by a court-martial of inefficiency in the performance of duty and neglect of duty, and sentenced to suspension from duty on furlough pay for three years. There were twenty-three specifications in each charge. Civil Engineer George S. Morrison, ex-president of the American Society of Civil and Mechanical Engineers, when called upon for expert testimony for the defense, gave as his opinion that docks were liable to move from their original position through poor foundations and the shifting of the land. He thought the site chosen for the big dry dock was unsuitable. Had he been in Mr. Menocal's place he would have refused to build the dock, as he valued his reputation as an engineer. Mr. Menocal, in testifying in his own behalf, denied all charges and stated that he believed the dock was injured by dredging at the entrance. Constructor Bowles, U. S. N., who repaired the dock, testified that instead of there being 47-foot piles, as the specifications called for, the piles put down were less than 47 inches in length, so that many of them floated. The dock is the only one on the Atlantic coast large enough to accommodate the largest battleships, and to be deprived of its use while in the midst of a war has made the matter especially serious.

In a few days James Davidson will launch the last of the four big wooden freighters that he has been building at West Bay City during the past winter and spring. Chickamauga and Chattanooga are the names of the two schooners that are last to go into commission. Good taste has been displayed in the naming of all of the Davidson ships. It is thought by most vessel men that the completion of these two vessels will mark the end of wooden ship construction on the lakes. A few small craft for special service will be built each year for some time to come, but it would seem that the end of wooden construction is now at hand, as regards ships of large dimensions. This opinion is not based on a statement of any kind from Capt. Davidson, but he has been alone as a builder of wooden vessels for a long time past, and he is in a peculiar position. He now has some twenty or twenty-two wooden freighters of the largest class, all built within the past few years. They are all his own, and they represent a very heavy investment for one man, especially as he has no connection with any of the producing interests that provide cargoes for lake carriers. Then, too, it is noted that although these vessels were built to be sold if purchasers could be found for them, none of them have been sold during the past two or three years. This is why most vessel men are of the opinion that we have seen the end of wooden vessels.

Considerable enthusiasm is being manifested by the newspaper press and publications all over the country in the certainty of a great stimulation to the American merchant marine as an indirect result of the Spanish-American war. The estimate has been made—and among persons in authoritative positions it is not regarded as an excessive one—that the United States government will, within the next ten years, devote an aggregate expenditure of a billion dollars to the strengthening of its navy, and the more hopeful advocates of maritime progress effect to believe that an equal sum will be devoted to building and equipping merchant vessels. The New York Commercial, in recent commentary on the lessons afforded by the war, says: "It should be borne in mind that there are several hundred separate businesses and trades called upon to supply the materials and equipment required for both ships of war and peace. There is no single human construction that makes such varied drafts upon other industries as that of a finished ship. From this we see that the favorable influence of war and merchant ship building will be felt in the remotest portions of the country."

Members of the life-saving service on the Atlantic and Pacific coasts are bewailing a circumstance induced by the present war. At present one of the duties of the stations along the coasts is to watch for hostile vessels, and consequently the crews have been ordered to remain on duty throughout the year, instead, as would ordinarily be the case, of going out of commission during the months of July and August. Under the rules of the service, however, men who serve eight and one-half months are paid at the rate of $65 per month, while men who work over that length of time, though the excess be but a day, may be paid but at the rate of $60 per month. The dissatisfaction among the life-savers on the coast is due to the fact that the men in the lake service will, under existing circumstances, receive $65 per month while they receive only $60.

Papers of interest to lake marine men will be presented at the annual meeting of the American Society of Civil Engineers, to be held in Detroit July 26 to 29. Among the number are "Reservoir System of the Great Lakes and of the St. Lawrence Basin; Its Relation to the Problem of Improving the Navigation of These Bodies of Water and Their Connecting Channels," by Capt. Hiram M. Chittenden, corps of engineers, U. S. A.; with a mathematical analysis of the influence of reservoirs upon steam flow by James A. Seddon; and "Dredges and Dredging on the Mississippi River," by J. A. Ockerson, M. Am. Soc. C. E. Mr. George Y. Wisner of Detroit, well known as a member of the Deep Waterways Commission, is chairman of the local committee in charge of the convention arrangements.

There is much of fallacy in the impression prevalent among many people at present that the fact of a large appropriation having been made for increasing our navy will enable the United States, when the sum has been expended, to jump from fifth or sixth place as a naval power into second or third. While America is making preparations to strengthen her navy England, Russia, Germany, France and even Italy are equally active. Russia is building vessels, both in this country and at home; naval appropriations in Germany have been immensely increased, and France, Italy and Austria show a determination not to lag in their warlike preparations on the seas. In short, it will be seen that this country can ill afford to be remiss, even if she desires no more than the retention of her present position.

Governor Black of New York has announced his readiness to, within a few days, announce the appointment of a commission of five persons, who, according to an act recently passed by the state legislature, are to examine into the commerce of New York, the cause of its decline and the means of its revival. There is much speculation as to the appointees, and the knowing ones have agreed upon the probability of the selection of Charles A. Schieren, the leather manufacturer; Hugh Kelley, former president of the New York Maritime Association, and Frank S. Gardner, secretary of the Board of Trade and Transportation.

Reports have been current in financial circles lately concerning a large consolidation of steel interests, the advance in the stock of the Illinois and Cambria companies being coupled with the project. This announcement is premature, but it is a fact that negotiations looking to a very great consolidation have been resumed lately after having been in abeyance for a considerable period. Very powerful interests are behind the undertaking, three of the large concerns of the country being named as the members of the new aggregation. As yet, however, matters have not proceeded beyond the preliminary stages.—Iron Age.

America's growing export trade in iron and steel products will be assisted indirectly by the Spanish export duty on iron ore. Loud complaints against the duty continue on the part of English consumers. The Spanish ministry has determined that the average duty shall be 1½ pesetas per ton, but shall in no case exceed 2 per cent. ad valorem, the total sum derived not to exceed 12,000,000 pesetas annually. It turns out, moreover, that the foreign mine owners in Spain are, to a great extent, the consumers of the Spanish ore also.

There seems to be little adverse comment among ship builders on the determination of the board of construction of the navy department to establish a time limit of thirty-three months, within which all contracts hereafter made for the construction of battleships must be completed. The building of armorclads of modern type is no longer a new industry in this country, and our best ship yards are as well equipped for quick work as those of Great Britain.

Foreign commerce always follows a large navy. The United States will soon have a navy second only to that of England. Ship yards will be developed in the upbuilding of this navy. The work furnished by the government will strengthen the present ship building organizations and bring about the establishment of new ship yards. The big plants, when assured of steady employment, will gradually reduce the cost of ship building in this country. They will build merchant ships to go hand in hand with the navy.

The navy personnel bill is still sleeping, and it is doubtful whether even Gabriel's trumpet or the call for Totten's millennium could resurrect it during this session of congress. Judging from the reports received from our several squadrons, line and staff manage to fight together very harmoniously. It is the unity, not the division of staff and line, that troubles the Spaniards.—Army & Navy Journal.

If it is found as a result of the war with Spain that old ideas as to naval warfare must be upset, it will not cost this country very much just at this time to change front.

Additional Protection for Coasting Vessels.

Additional safeguards to prevent the fraudulent registration of foreign built vessels wrecked in American waters and repaired in American ship yards are afforded by an amendment to section 4136 of the United States revised statutes, which has just been reported by Senator Elkins from the senate committee on commerce, with the recommendation that it be passed. The amendment proposed provides that such vessels shall be registered only upon the presentation of satisfactory proof "that the repairs put upon such vessels were made in the United States and are equal to three-fourths of the appraised value of the vessel when so repaired; provided, that any vessel admitted to American registry pursuant to this section which shall engage in the coasting trade or fisheries of the United States shall be subject to forfeiture."

The report presented by Senator Elkins states: "The purpose of this amendment, in the judgment of the (commerce) committee, is to compel a better adherence to the established policy of the government for a hundred years prohibiting foreign built vessels from taking part in the American coastwise trade, to the injury of American built vessels in that trade, and to American ship yards; also to prevent speculation in American registers and to place the cost of repairs upon such foreign built vessels that may be wrecked in our waters and admitted to American registry upon a basis that will be just and fair."

It is also stated in the report that "in order to get an American enrollment and admission to the coastwise trade, foreign vessels are often wrecked in our waters for that purpose alone."

Lighting of Grosse Point Channel.

The discussion of the lighting of Grosse point channel and the publication in the last issue of the Review of the correspondence on the subject between Maj. M. B. Adams, United States engineer in charge of the Detroit office of the light-house service, and Capt. George P. McKay of the Lake Carriers' Association, has seemingly aroused an even more widespread interest in the discussion. Capt. McKay is in receipt of the following letter:

Capt. Geo. P. McKay, Lake Carriers' Association, Cleveland, O.—Dear Sir: I have noticed in the Marine Review your request to vessel masters to write you regarding the lighting of Grosse point channel, Lake St. Clair. I do not think range lights are best for this channel. With prevailing winds in this vicinity, the smoke from the city of Detroit is driven over Peach island, and when there is no wind the smoke hangs over the island. This smoke nuisance is often so bad that it is impossible to see the range lights through the channel half the distance from the light-ship, more especially when we are meeting boats, and in my judgment a system of side lights would be much better for this locality. On May 20 at 1 a. m., when abreast of Windmill point we ran into a low fog that had risen, say about 8 or 10 feet from the water's surface. It was almost impossible to make out which were the proper lights to guide us through the channel. Three small vessels were anchored close to the turn, and I could scarcely distinguish the lights which they displayed from the ones used to light the channel. There should be two lights, red and white, one above the other, on the spiles at the lower turn, in order to distinguish this light from the anchor light of a small vessel. On the night I speak of I could not distinguish the back range light on Peach Isle at all and could see the Grosse point light-ship but dimly. If these had been side lights, we would have had no difficulty in finding our way, but as it was, it proved decidedly unpleasant work, as my boat was heavily laden. I think that a permanent light would be the best thing that could be selected in the way of a side light at the 10½-mile turn, as it frequently happens that we are unable to distinguish even the side lights a mile distant, particularly as during a considerable portion of the summer season Lake St. Clair is covered with what we call a haze on the water.

Speaking of navigation in the "Soo" river, I may also say that it is almost impossible, especially at night, to navigate the Hay lake channel from the dyke up, and we have to run on those ranges so far that a noticeable improvement would be effected if some side lights were advantageously placed. In my opinion, the axle range lights are the best where there is a heavy current, provided the ranges can be elevated high enough to be seen above a steamer smoke stack. Hoping that we may be able to secure the best possible lights at Grosse point cut, I remain,

CAPT. M. MULHOLLAND,
Steamer Alva.

Detroit, June 5, 1898.

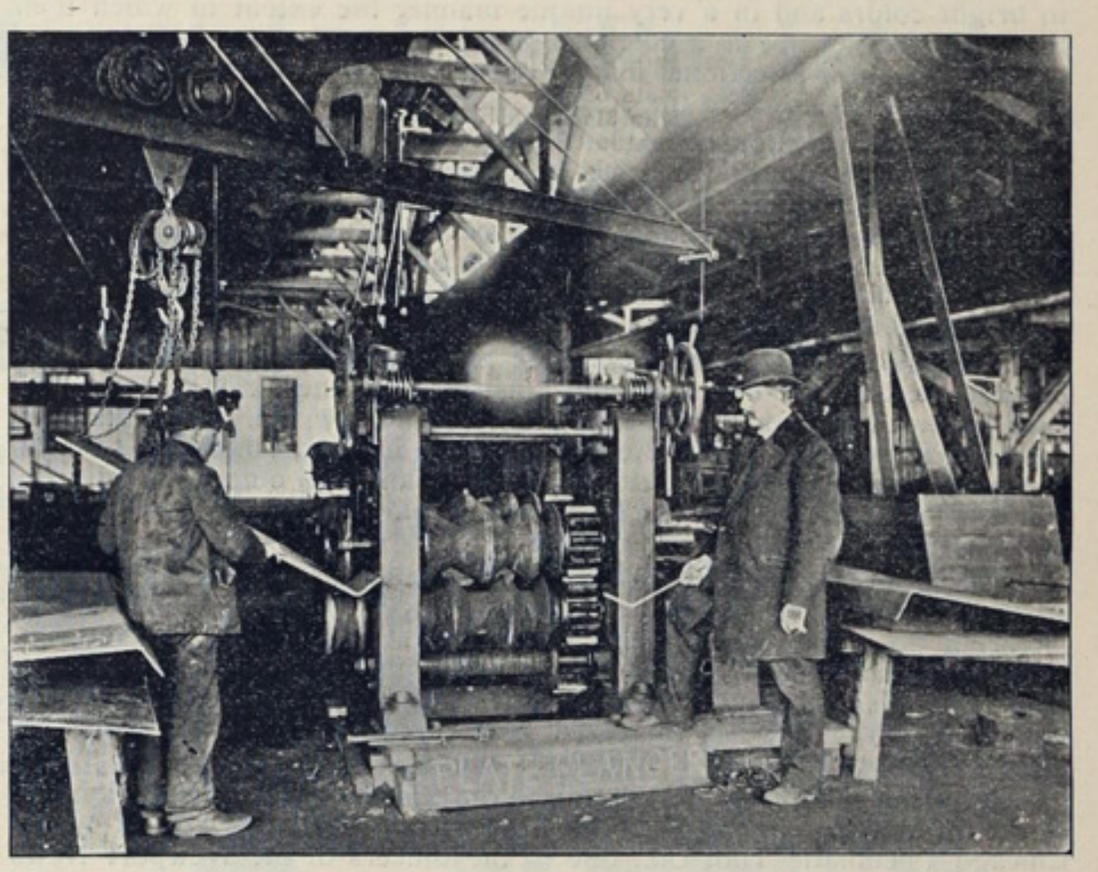
Capt. McKay is also in receipt of a communication on the subject from Capt. D. Nicholson of the steamer Tom Adams. Capt. Nicholson says: "Since they have removed the lights from the cut it has been almost impossible to run the Grosse point channel at night. The smoke settles down from Detroit, and a person cannot see the ranges at any distance, whereas when we had the side lights you could always distinguish another before you lost sight of one. Since they have taken away the side lights I make it a practice to lay out in Lake St. Clair and wait for daylight. At about 11:30 o'clock on the morning of June 4, while coming down through the straight channel at Grosse point and when about 300 feet above the second black stake and about 200 feet out, my steamer, the Tom Adams, struck something, apparently, from the sound, loose stones, which made her list about a foot to port. At about the same distance from the lower black stake, she struck a rock with such force as to shake the boat considerably, causing her to leak more or less. The boat was drawing 17½ feet."

"Summer Outings," published by Nickel Plate road and prepared by Advertect Horner, is neat and attractive, the cover being one of the most artistic ever put on a booklet. The contents mention and illustrate places between Buffalo and Chicago where an inexpensive and restful vacation may be spent. Anyone sending a postal card request giving name and address will receive a copy.

The Russian government has promulgated a law permitting the entrance into Russian ports from abroad for ten years from July next of completed iron ships destined for navigation in foreign seas.

Detroit Dry Dock Co.'s Wyandotte Yard.

Wyandotte, Mich., June 2.—I have had occasion to visit the ship yard of the Detroit Dry Dock Co. at this place in connection with an examination of pneumatic tools—riveters, chipping and caulking machines, etc.—and I have been so impressed with the plant and its management that I jotted down a few notes for the Review. There is probably nothing new to most of your readers in the statement that this plant was established twenty-eight years ago, but the fact that any of the plants for the building of metal ships had been so long in operation was new to me. Ships built at this yard are found in all branches of the lake trade—No. 129 is now building. The superintendent, Mr. F. A. Kirby, is of an inventive turn of mind, and during the last few years has built and placed in operation several machines that greatly facilitate the preparation of material for new ships. One of these, in which he takes special pride, is a flanging machine for cold plate flanging and for the opening and closing of angles. This machine is suited to straight plate flanging and also to



FLANGING MACHINE AT WYANDOTTE SHIP YARD.

forming flanges of hollow or rounding forms. It may also be used to bend a flange to any desired angle; for opening or closing any desired bevel, or for varying the angle as the plate passes through the machine. Injury to plates due to heating is avoided with this machine, and it is said to have paid for itself many times over in rivets saved on certain lines of work. A combined punch and shear weighing twenty-eight tons was a short time ago installed in the Wyandotte yard. This tool is so constructed that the punch pierces the plate with a slow motion, preventing crystallization, and returns with a rapid motion. The shear works on the same principle. By means of a lever and thumb-screw attachment, the punch may be raised or lowered to fit any thickness of plate, making it possible to use the punch with great accuracy. A large press for cold bending and other modern machines lately put in here give the yard an up-to-date appearance, especially since the pneumatic-tool outfit, which is one of the finest in the conutry, has been in operation. BOLLES.

The Lumber Carriers.

Reports emanating from various sources during the past few weeks relative to a possible amalgamation of the Lumber Carriers' Association and the Michigan Lumber Carriers' Association have induced more or less speculation, but as yet there is nothing tangible to authenticate the assertions made. The statement that a meeting of the executive boards of the two organizations will be held in a short time to consider the question of consolidation would also appear to be without foundation.

President Comstock of the Lumber Carriers' Association said in Detroit, a few days ago, that the talked of consolidation was a practical certainty, but that it would not be effected before next winter. Mr. Comstock is also quoted in a Detroit newspaper as saying that, while the interests of the two associations are separate and distinct, the moral effect of the union would be good. The amalgamation would save expense to both, by doing away with one set of officers and dividing the operating expenses of the association among a larger number of boats.

The rate fight between the Detroit lumber dealers and the Lumber Carriers' Association is still in an incipient stage. The Detroit Lumber Dealers' Association has decided to hold out against the schedule of prices demanded by the lumber carriers, while the Lumber Carriers' Association has announced semi-officially that it will ignore the demand of the shippers for a shilling differential on lumber to Detroit. They argue that the shorter haul, which the Detroit shippers have been using as an argument, is no advantage and is moreover more than offset by the fact that vessels can get no cargoes at Detroit for up the lakes and must therefore drop down to Lake Erie ports.

George C. Shepard, who was engaged for a time with the Globe Iron Works Co. of Cleveland on designs of marine engines, and who conducted later several tests of lake steamers, has just accepted a position with the Cramps of Philadelphia.

Through an oversight the Review neglected in its issue of last week to give credit to the American Shipbuilder of New York for the use of the cuts of the new coast revenue cutter, now building at Baltimore.

Trade Notes.

Bement, Miles & Co. of Philadelphia are at work on a large order for a machine shop equipment for a Japan firm.

A contract has been awarded by the Standard Oil Co. to the Hillman Ship & Engine Building Co. of Philadelphia for a new tug 102 feet long, 22 feet beam and 10.6 feet depth of hold.

The Vulcan Iron Works Co. of Toledo has lately contracted to build three 70-ton Giant steam shovels of all steel, the rated capacity of each being 4,500 tons of iron ore in ten hours.

It is estimated that it will require two years to complete the big dry dock at Newport News, for which working plans are now being prepared. The Newport News Ship Building & Dry Dock Co. will expend about $1,000,000 on this dock, which is to be 750 feet long and 160 feet wide at the top.

The Wm. Powell Co. of Cincinnati is sending out hangers illustrating in bright colors and in a very unique manner the extent to which their Star regrinding valve is used throughout the world. On a background of blue they show a sectional map of the world, representing every nation from Uncle Sam down to the scantily clothed Zulu as using their valves.

A very clear demonstration of the advantages of the Pintsch gas buoy is afforded by a model which has just been forwarded to the Review by the Safety Car Heating & Lighting Co. of New York. The model is a perfect working one and may be utilized as a novelty for illuminating purposes. All the constructive points of the invention are also clearly shown. Of all the lights in use on the lakes as aids to navigation, these buoys are most satisfactory.

Anchors of the Dunn type, which are characterized as the cheapest because the best, are described and illustrated in a neat catalogue just issued by the American Steel Casting Co. of Thurlow, Pa. The catalogue contains, in addition to some excellent views of the anchor at all stages of manufacture, a great collection of testimonials from officers of the navy and merchant service, headed by that of Capt. Schley, who speaks most enthusiastically of the Dunn anchors.

The Moore Manufacturing Co. of Cleveland has increased its capital stock to $150,000 and changed its name to the Chisholm & Moore Manufacturing Co. The new company is erecting a brick building at the corner of Lake and Kirtland streets, into which they expect to move about Aug. 1. This company's business in the manufacture of chain hoists, cranes, trolleys, etc., has increased very rapidly and has outgrown its present quarters in the H-P Nail Co.'s shops.

Referring to a recent description in the Review of the pneumatic tools at the Wyandotte ship yard of the Detroit Dry Dock Co., made by the Chicago Pneumatic Tool Co., one of the officers of the Newport News Ship Building & Dry Dock Co., says. "We are familiar with the experiments made with these tools at the Wyandotte ship yard. We are very much interested in the tools and have started an investigation as to their merits. We are now using pneumatic tools quite extensively at these works."

Orders have been received by the Gas Engine & Power Co. & Seabury & Co., Consolidated, of New York from the hospital department of the United States army for two steam launches to be used for ambulance purposes. They will be 28 feet long, 8 feet beam and 3 feet draught. The machinery will consist of a compound engine with cylinders 2¾ and 5¾ inches by 4½-inch stroke and Seabury boilers. The speed of these launches will be 8 miles. The firm has also received an order for a 42-foot cabin steam launch with a speed of 11 miles per hour for the American National Red Cross Society.

Two wrecking pumps recently furnished to the Donnelly Wrecking Co. of Kingston, Ont., by Edwards & Co. of New York, are said to be the finest pumps on the lakes for the kind of work in which the Donnelly company is engaged. One of the pumps, which is driven by a 40-horse power Westinghouse high-speed engine, and furnished with 40 feet of flexible suction hose and 100 feet of metal suction pipe, is at present pumping up grain that was accidentally lost from one of the Kingston elevators. The Donnelly company now feels prepared to tackle any pumping job.

This office lately received from the Wolverine Motor Works of Grand Rapids, Mich., their 1898 catalogue and price list. It is very artistically gotten up and shows to an excellent advantage the machines manufactured by this firm. Especial prominence is given to their Wolverine marine motor, which ranges in size from ¾ to 60 horse power. Launches and row boats made by this firm are also illustrated in a very attractive manner. The remainder of the catalogue is devoted to a list of boat fittings, gas engines, plantation locomotives and other articles in their line. Several testimonials are given, speaking of the highly satisfactory character of this firm's work.

A steel steam yacht, the Malay, probably worth $50,000, was launched last Saturday at the Roach ship yard, Chester, Pa. The yacht is for Mr. Wild of Boston and is 122 feet over all, 20 feet beam, moulded, and 10 feet 6 inches depth of hold. Her engines are triple expansion, surface condensing, with 16-inch stroke. She will have two water tube boilers of 250 pounds working pressure. Her speed is estimated at 15 knots. Plans for this vessel were prepared by Gardner & Cox of New York. A sister boat to the Malay is now on the stocks at the Roach yard, and, it is stated, will in all probability be purchased by the government.

An illustrated catalogue that is a model of completeness has just been issued by L. W. Ferdinand & Co. of 184 Federal street, Boston, dealers in heavy and ship chandlery hardware, tackle blocks and cordage, ship chandlery, etc. The firm has in its present price list adopted a method of arrangement most satisfactory to the consumer desirous of procuring prices upon any particular class of goods. Moreover, the whole system of presentation is compact. Ferdinand & Co. are agents for the goods of the Skelton Brass Hardware Co., Jeffery's patent marine glue and the Stentor megaphone. Of the latter they are making a specialty. The megaphone has a capacity, even under adverse conditions, of magnifying the power of the voice many times, and is in general use on vessels and docks.

Rates to all points east and west, lower via Nickel Plate road than via other lines. Ask agents. 77, June 16

Minnesota Company's Annual Meeting.

Annual meetings of the stockholders of the Duluth & Iron Range Railroad Co. and the Minnesota Iron Co. were held at Duluth, Monday, and were preceded by the usual inspection of the properties at the head of the lakes. The entire old boards of directors of the two companies were re-elected, with the exception of two officials. E. W. Winter of St. Paul was chosen to succeed James Belden, who had been appointed a member of the boards in order to fill a vacancy, and George A. Brewster of New York was elected to succeed his father, Benjamin Brewster, deceased. The new boards of directors organized by the re-election of all the old officers of both companies.

The showing made by the Iron Range railroad last year was the best in its history, and President Greatsinger was authorized to make a number of improvements during the ensuing year. The inspection trip included visits to the railroad and the mines of the Mesabi and Vermillion ranges and to the new ore docks at Two Harbors. In the party were: H. H. Porter, chairman of boards of directors of the Minnesota Iron Co. and Duluth & Iron Range Railroad Co.; Marshall Field; C. T. Coffin, secretary of the Minnesota Iron Co.; G. W. Hillard, treasurer of the Duluth & Iron Range; Frank Stephenson; M. J. Carpenter, president of the Chicago & Eastern Illinois Railroad Co.; James Belden, secretary to Mr. Porter of Chicago; Henry Seibert, vice-president of the Minnesota Iron Co.; A. J. Patterson, treasurer; George S. Brewster, director; Henry Hollister, J. B. Taylor and Mr. Hungerford of New York; Samuel Mather of Cleveland, of the firm of Pickands, Mather & Co.; D. H. Bacon of Tower, president of the Minnesota Iron Co.; J. L. Greatsinger, president of the Duluth & Iron Range Railroad Co., and Capt. Joseph Sellwood, vice-president.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store in regular elevators at the principal points of accumulation on the lakes, June 4, 1898:

	Wheat, bushels.	Corn, bushels.
Chicago	1,373,000	7,593,000
Duluth	4,066,000	2,352,000
Milwaukee	120,000	.....
Detroit	61,000	134,000
Toledo	332,000	795,000
Buffalo	2,398,000	915,000
	8,350,000	11,789,000

As compared with a week ago, the above figures show, at the several points named, a decrease of 214,000 bushels of wheat and an increase of 892,000 bushels of corn.

Seven-eighths of a cent freight on corn from Chicago to Buffalo, a rate proposed during the past week, is certainly a very low figure. It means little more than half a cent for carrying a bushel of grain 687 miles, as trimming charges at Chicago, together with charges for shoveling and tallying of weights at Buffalo, which are paid out of the vessel's freight, foot up nearly three-eighths of a cent. Compared with the average rates in years past, the present figure seems little less than marvelous. In 1857 the average rate per bushel on corn from Chicago to Buffalo was 9.77 cents, and in 1861 it jumped to 11.41 cents. In 1866 the rate was up to 12.22 cents, and it fluctuated, occasionally passing the 11-cent mark, until 1872, since which time it has gradually declined, until the minimum rate of 1.15 cents per bushel was reached in 1894. The average rate last year was 1.44 cents, and inasmuch as present indications are that not more than 1 cent will be paid until very late in the present season, it can be readily seen that the grain freights afford a most interesting side-light on the transition through which lake commerce is now passing.

Prospects of filling our ship yards with new work are making life cheerful to boat builders as well as other supply people. Thos. Drein & Son of Wilmington, Del., have already an order from the Cramps alone for thirty-two 22-foot and twelve 26-foot patent beaded steel life boats, twenty-two life rafts and 1,500 cork life preservers. Other orders from the Harlan & Hollingsworth Co., Neafie & Levy, Atlantic Works, etc., include four 24-foot, seventeen 22-foot, eight 20-foot, three 18-foot, and one 16-foot patent beaded steel life boats, three 16-foot wooden clinker life boats, one large sea life raft, 180 cork life preservers for tugs, barges, steamers, etc., building in Boston, Philadelphia, Wilmington and Cleveland. They have also an order for seven of their patent steel boats for monitors and gunboats in the United States navy.—Marine Journal.

Reports from Washington chronicle an alleged misunderstanding between officials of the navy department and the revenue cutter service over the proposition on the part of the former to change the name of the revenue cutter Algonquin, now building in Cleveland, to Acamac. The naval officials claim that a change of name is necessary, owing to the fact that a tug named the Algonquin is now doing patrol duty on the Atlantic coast.

Excursion to Denver, Pueblo and Colorado Springs via Nickel Plate road, June 15th, 16th and 17th.—Biennial meeting Federation Women's Club at Denver, Colo., June 21st to 23d. Lowest excursion rates via Nickel Plate road. Ask agents. 74, June 16

Nickel Plate road excursions to Denver, Pueblo and Colorado Springs—June 15th, 16th and 17th, on account biennial meeting Federation Women's Club. Ask agents. 75, June 16

U. S. Engineer Office, 185 Euclid Ave., Cleveland, O., May 23, 1898. Sealed proposals for constructing part of west pier, removing part of old west pier, dredging, and completing east breakwater, at Cleveland Harbor, Ohio, will be received here until 2 o'clock, P. M., standard time, Thursday, June 23, 1898, and then publicly opened. Information furnished on application.
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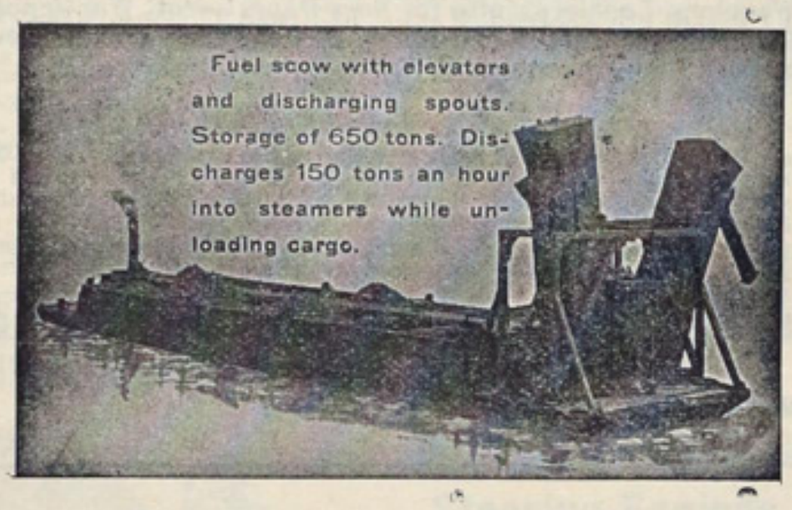
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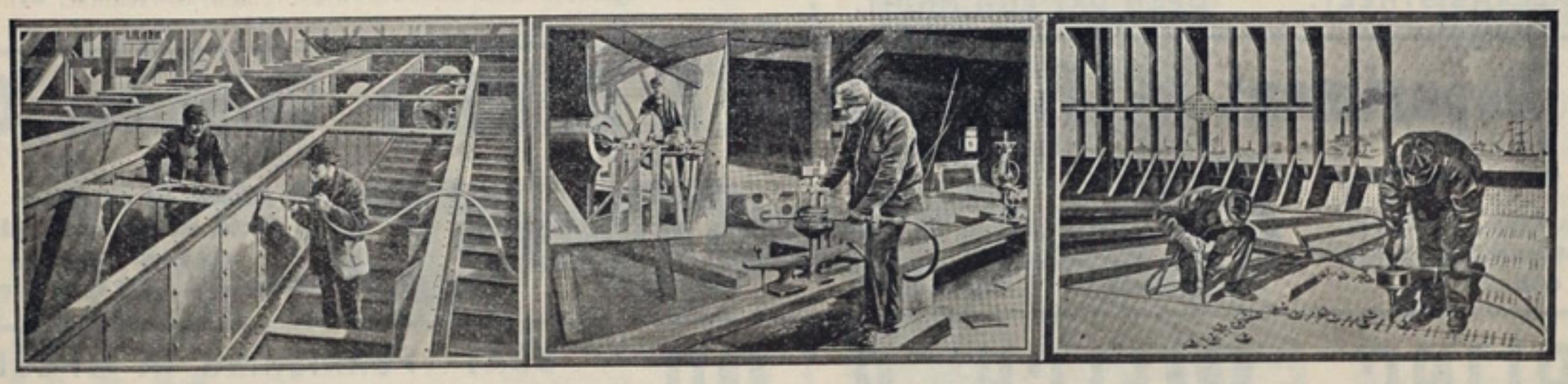

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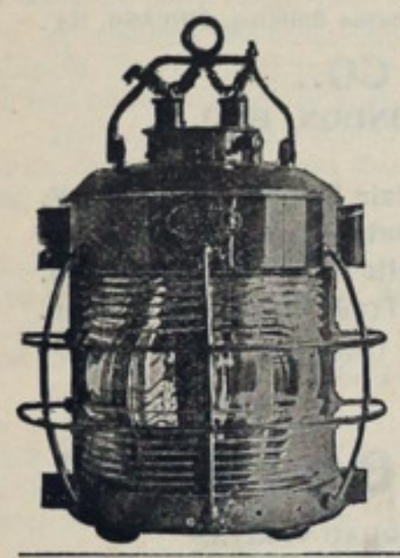

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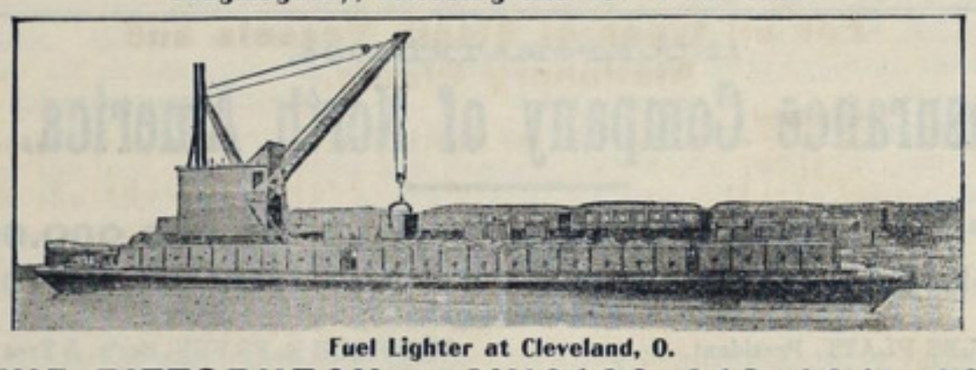

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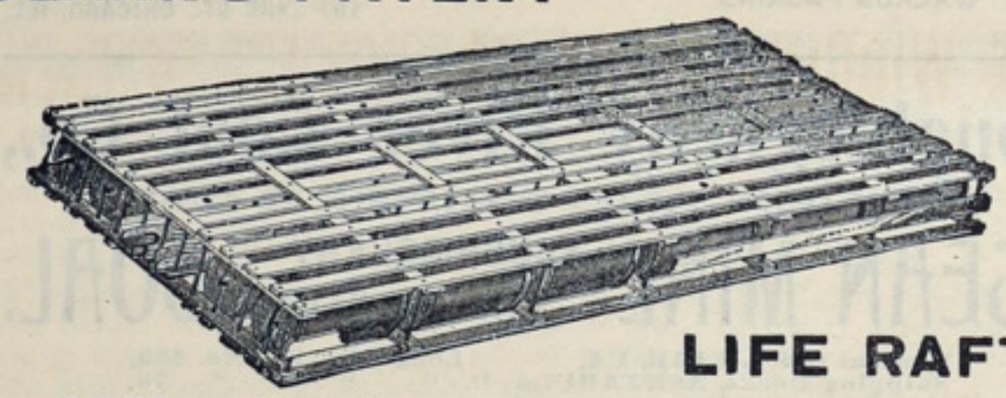

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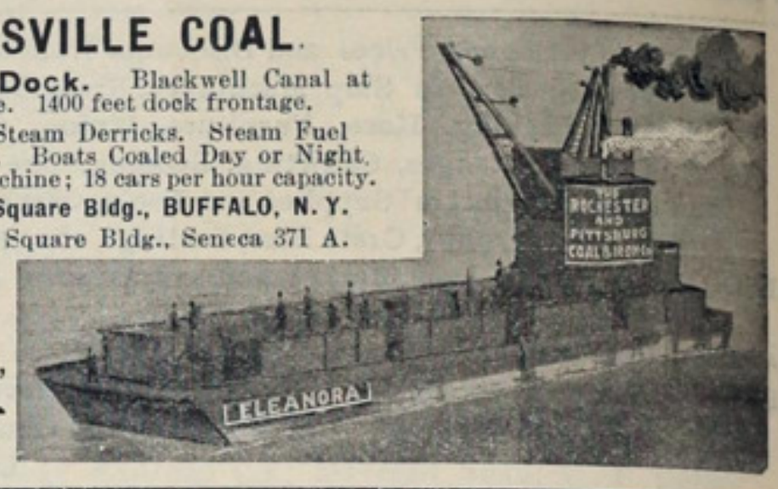

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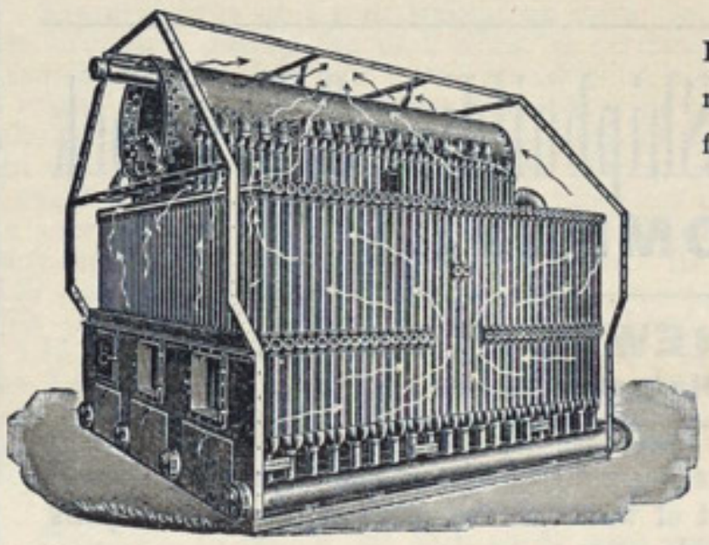

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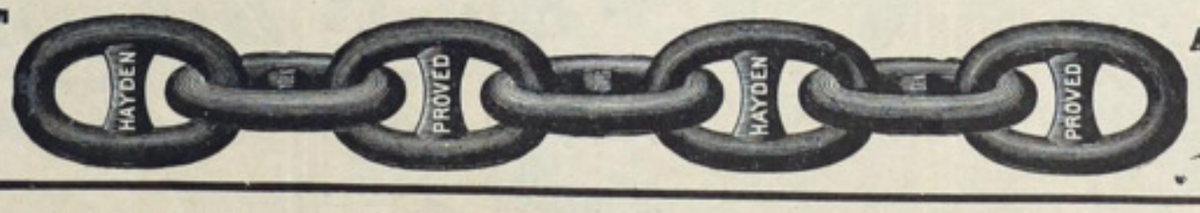

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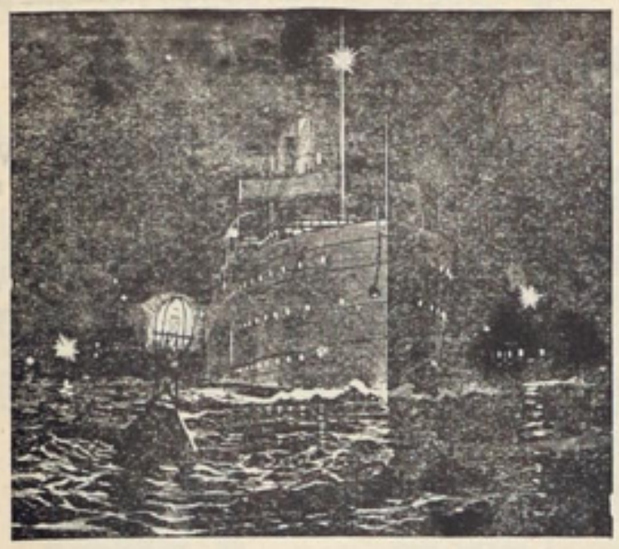

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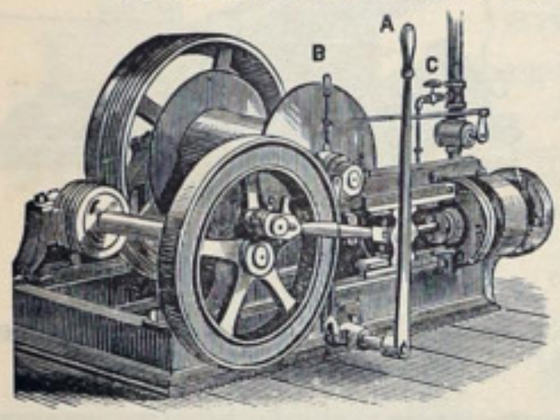

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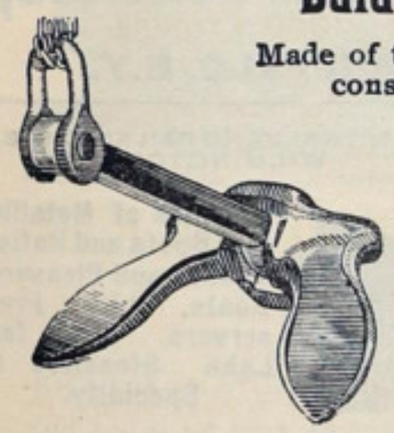

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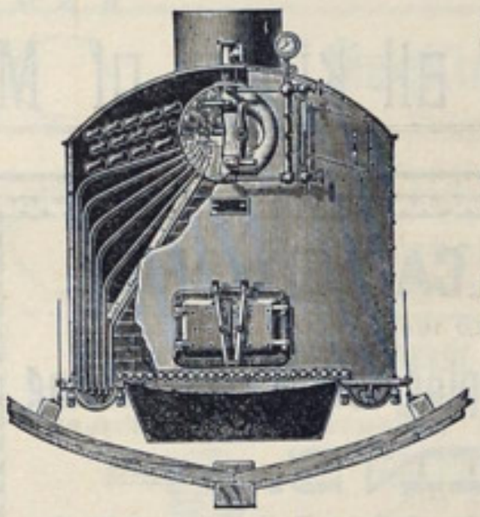

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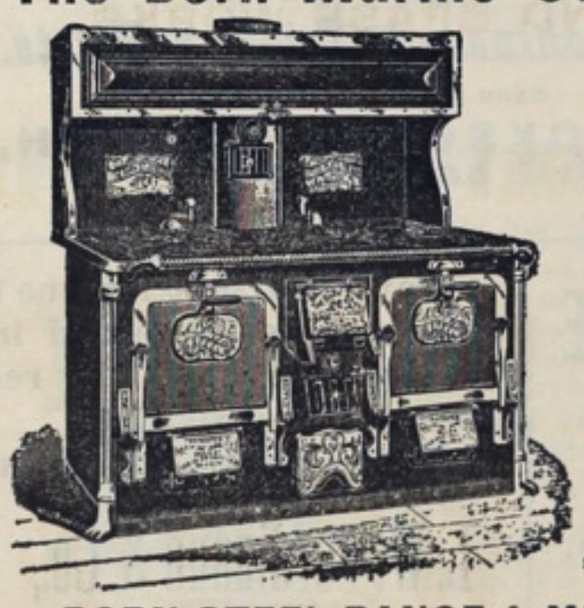

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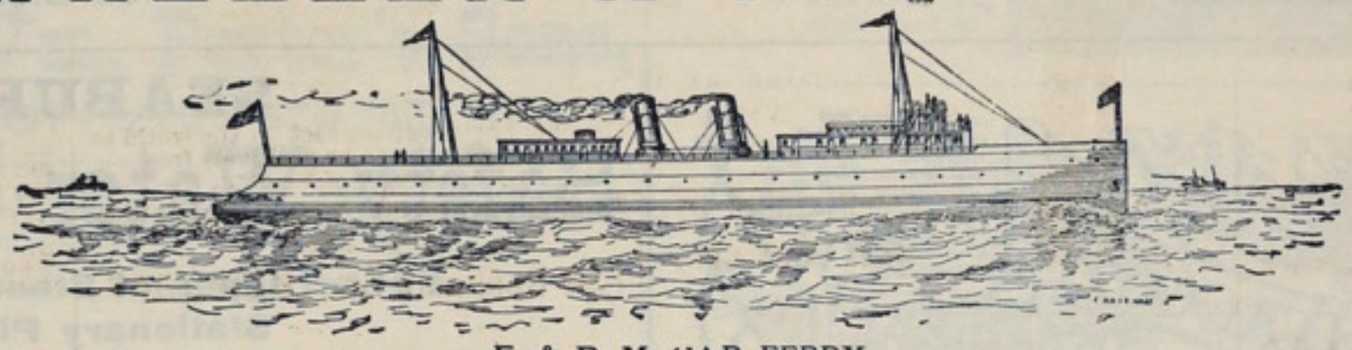

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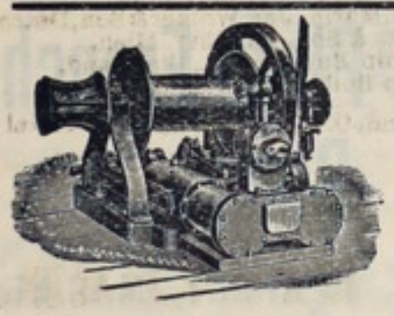

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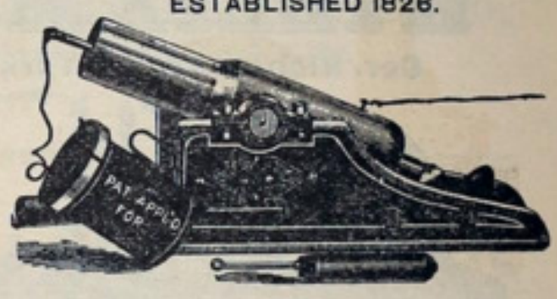

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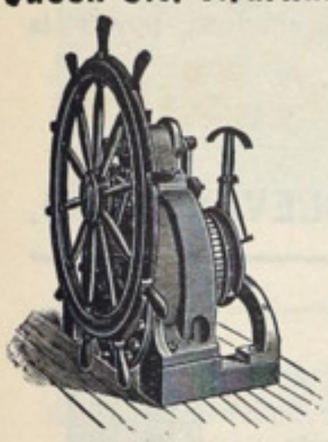

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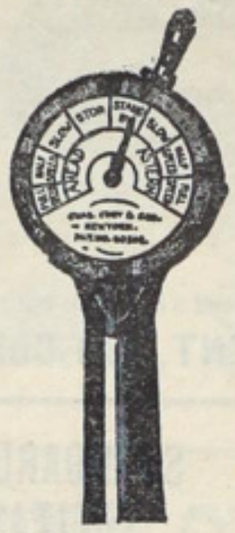

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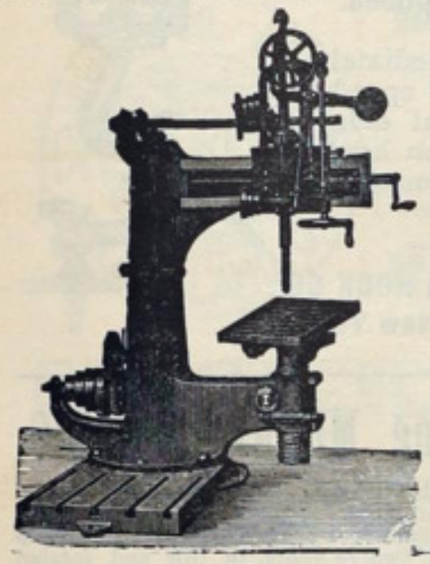

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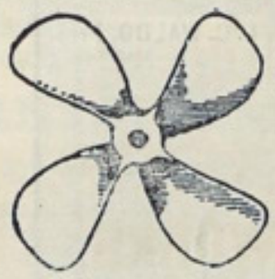

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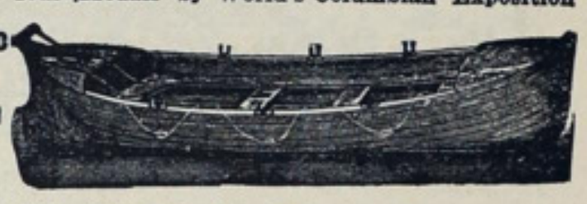

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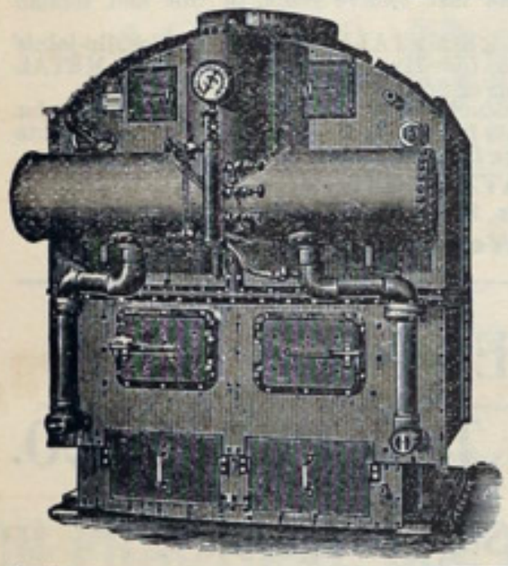

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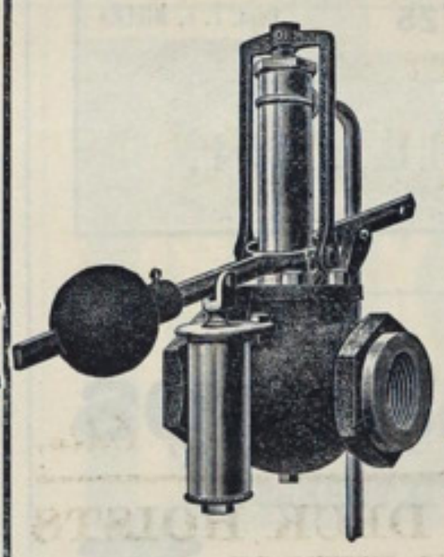

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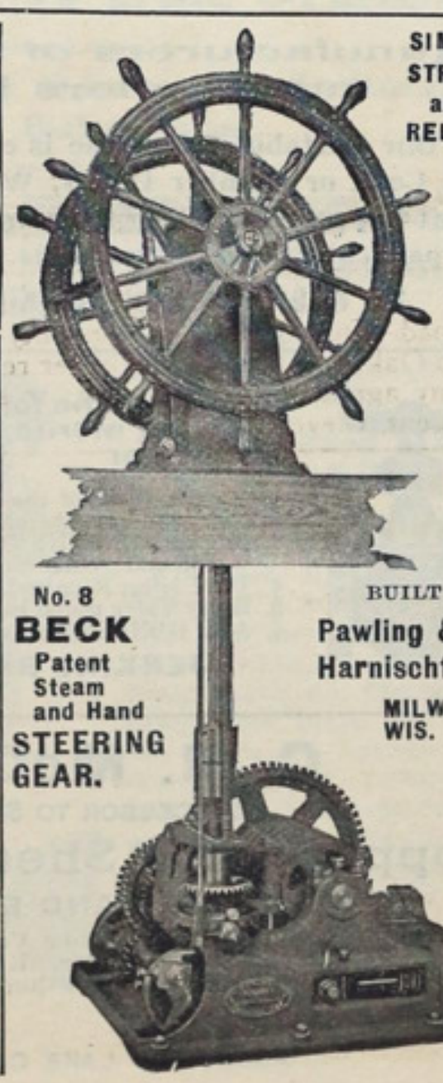

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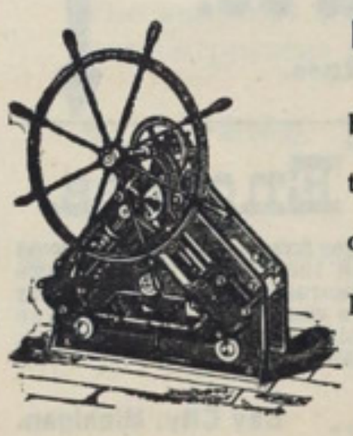

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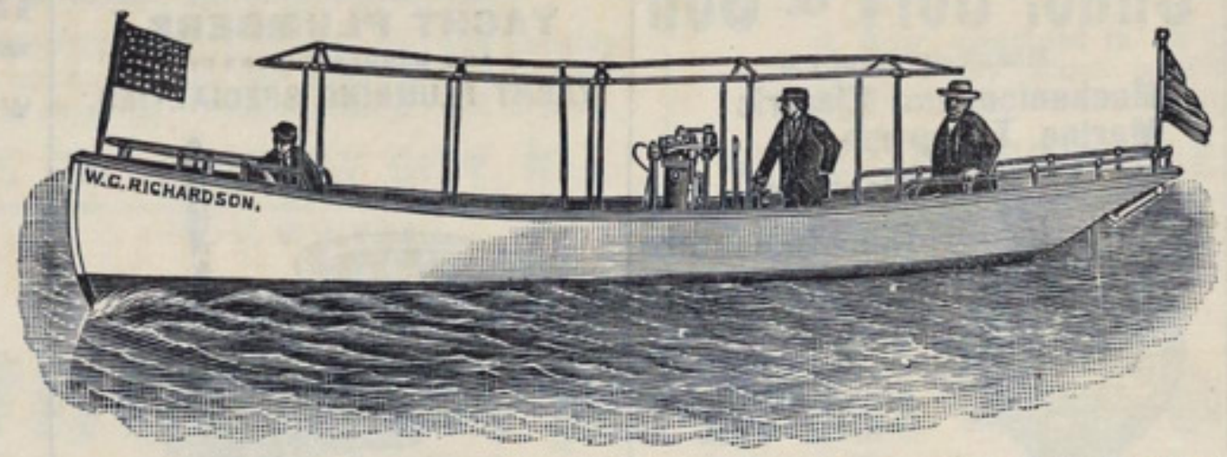

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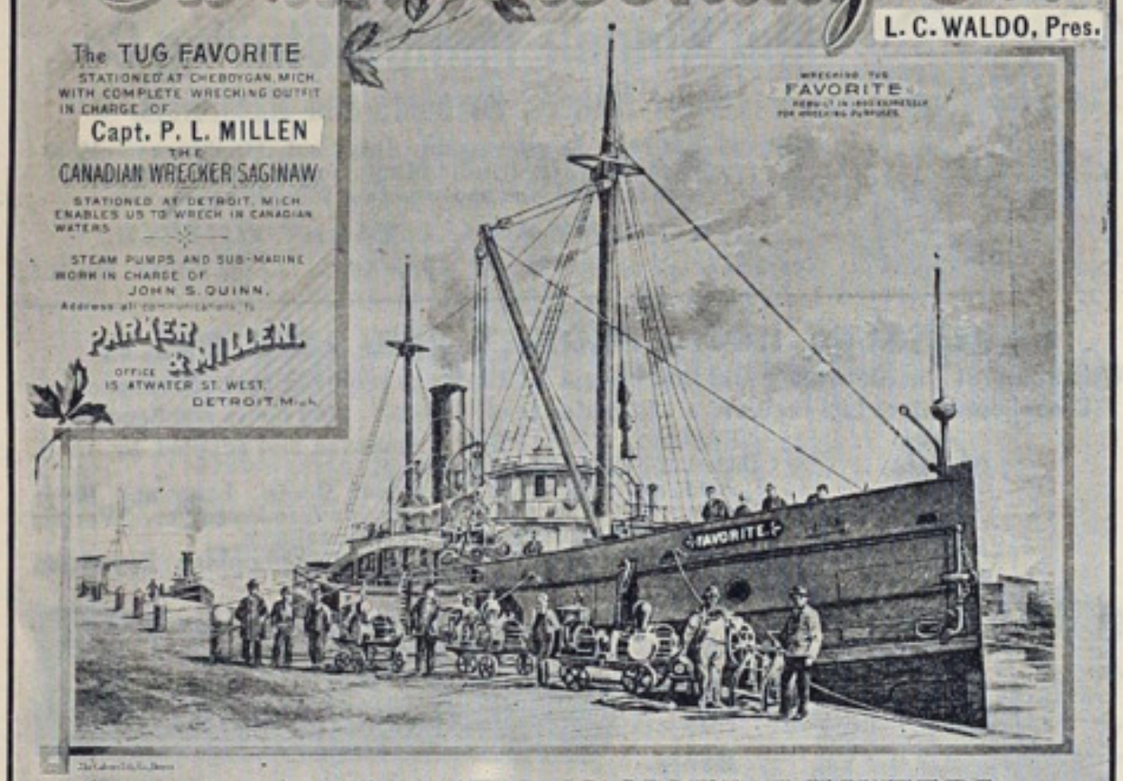

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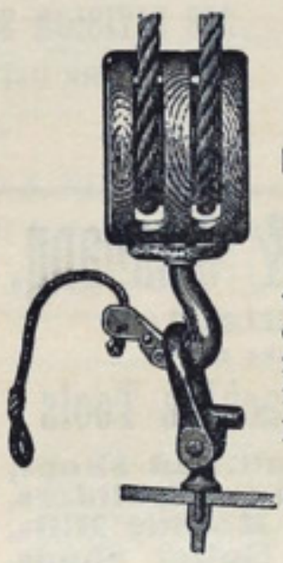

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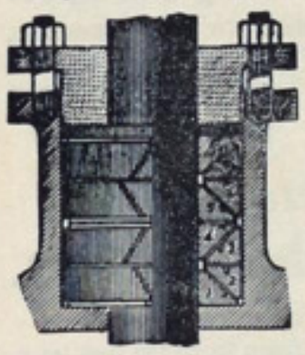

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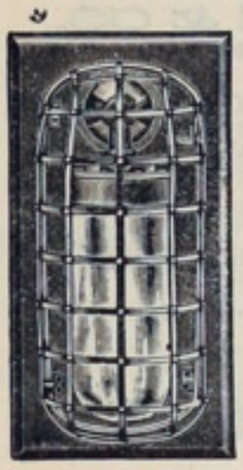

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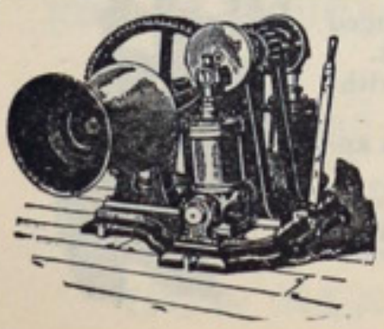

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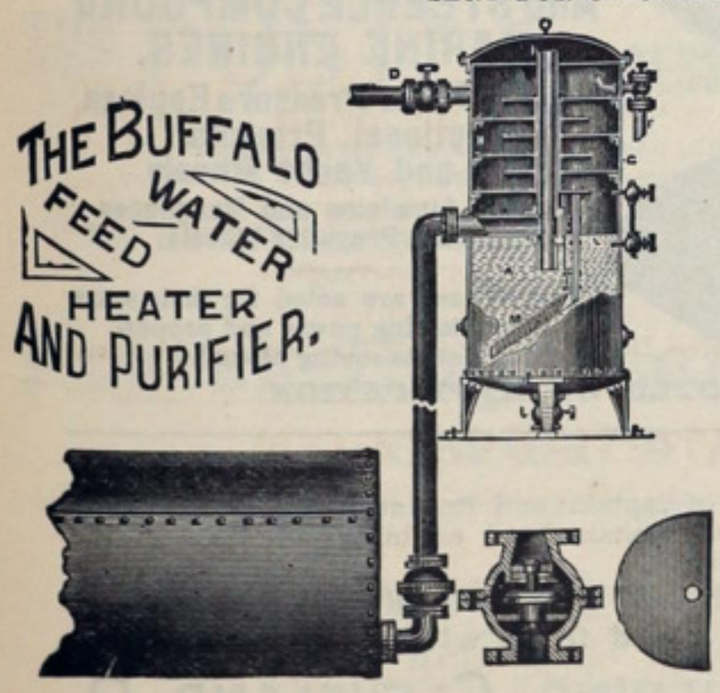

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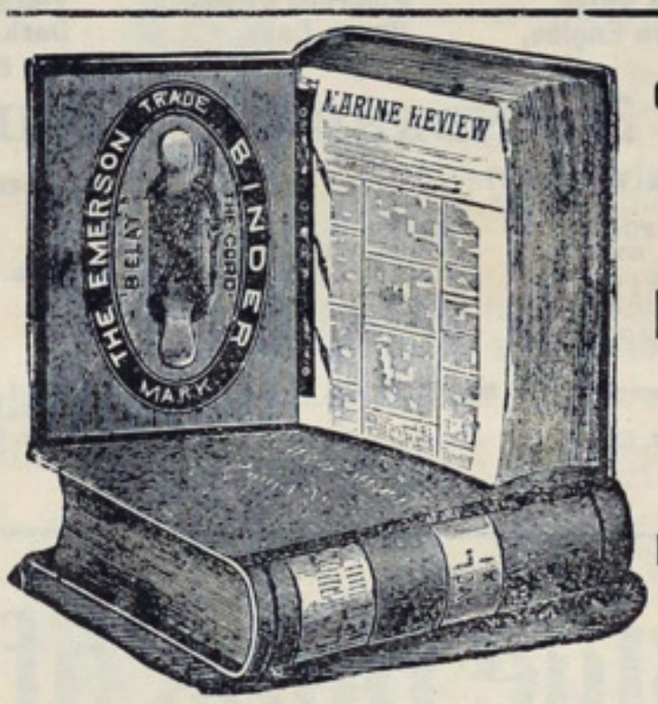

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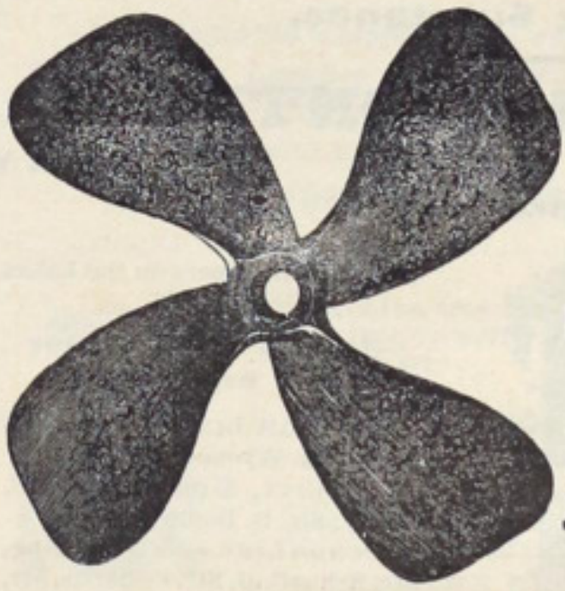

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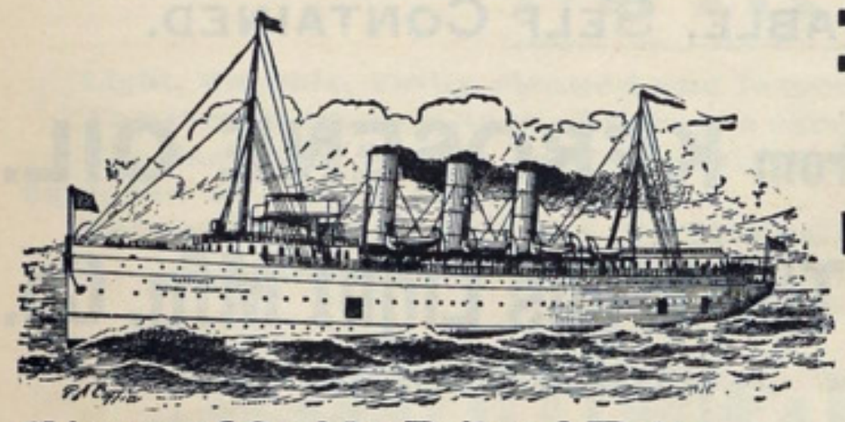

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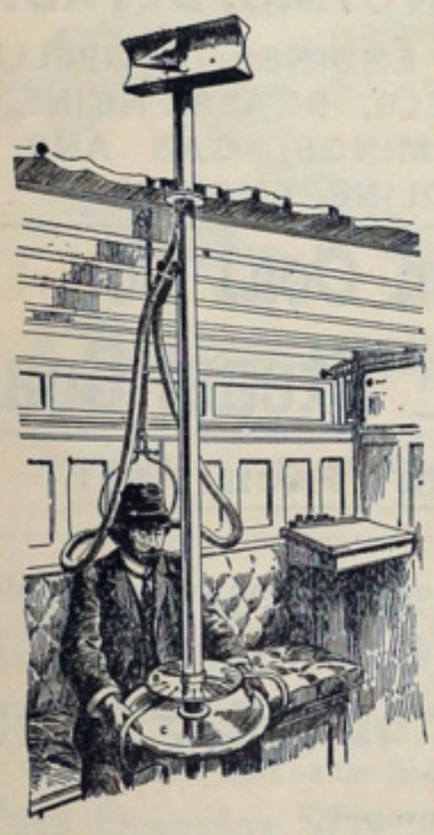

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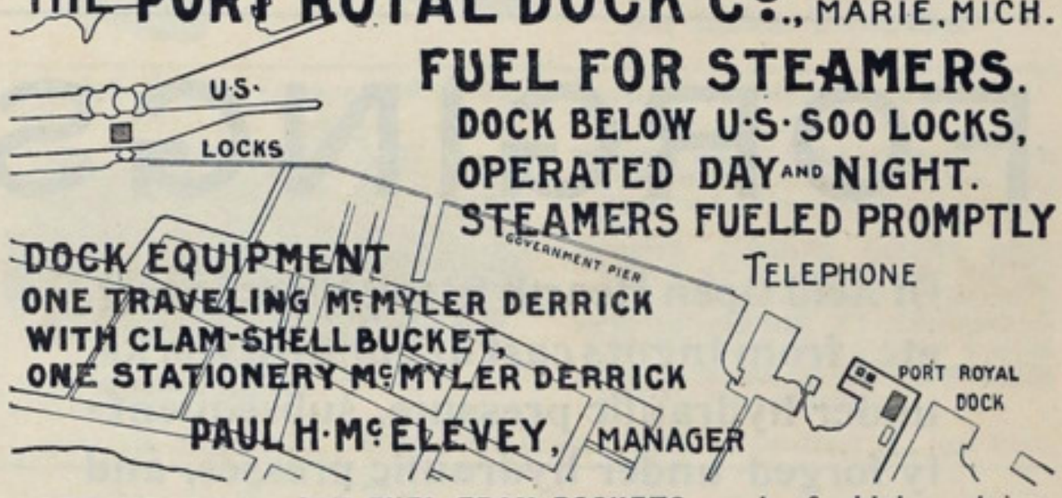

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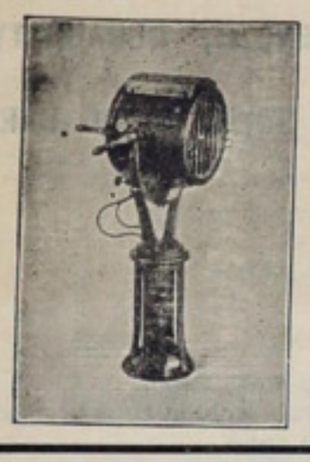

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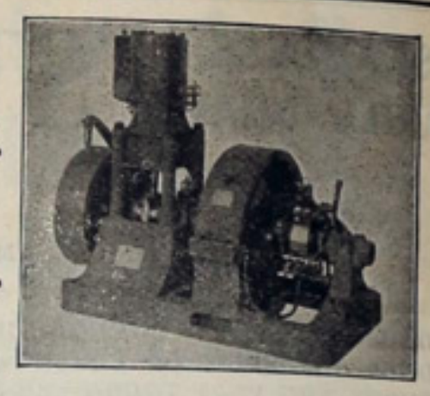

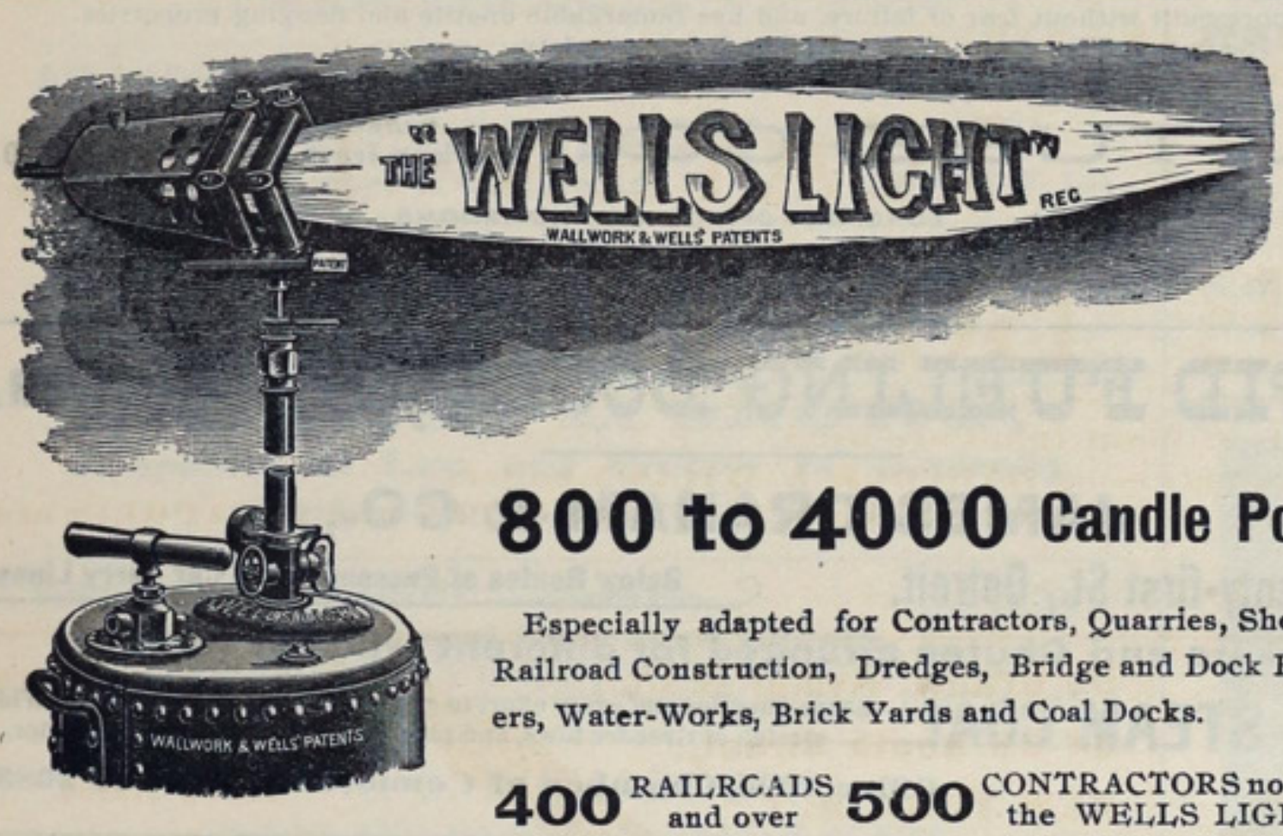

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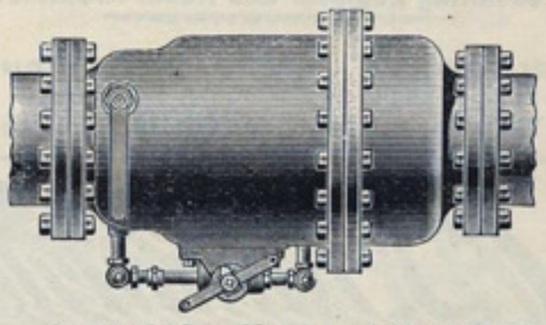

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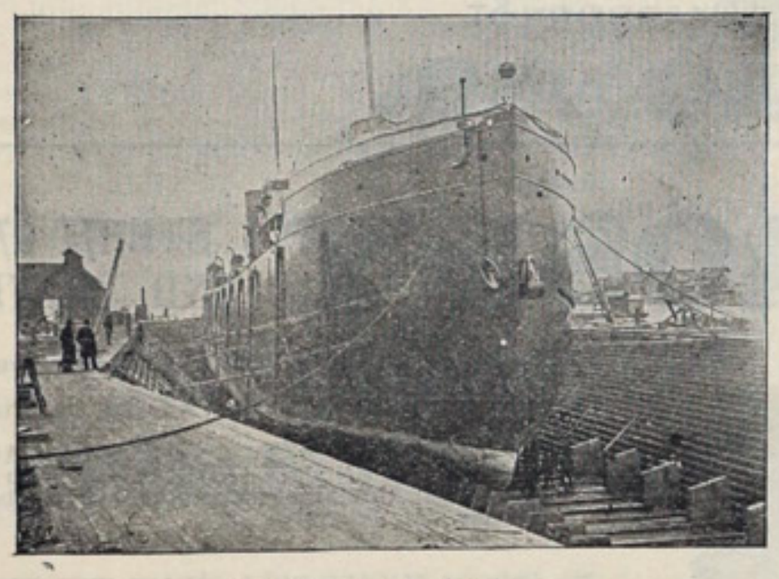

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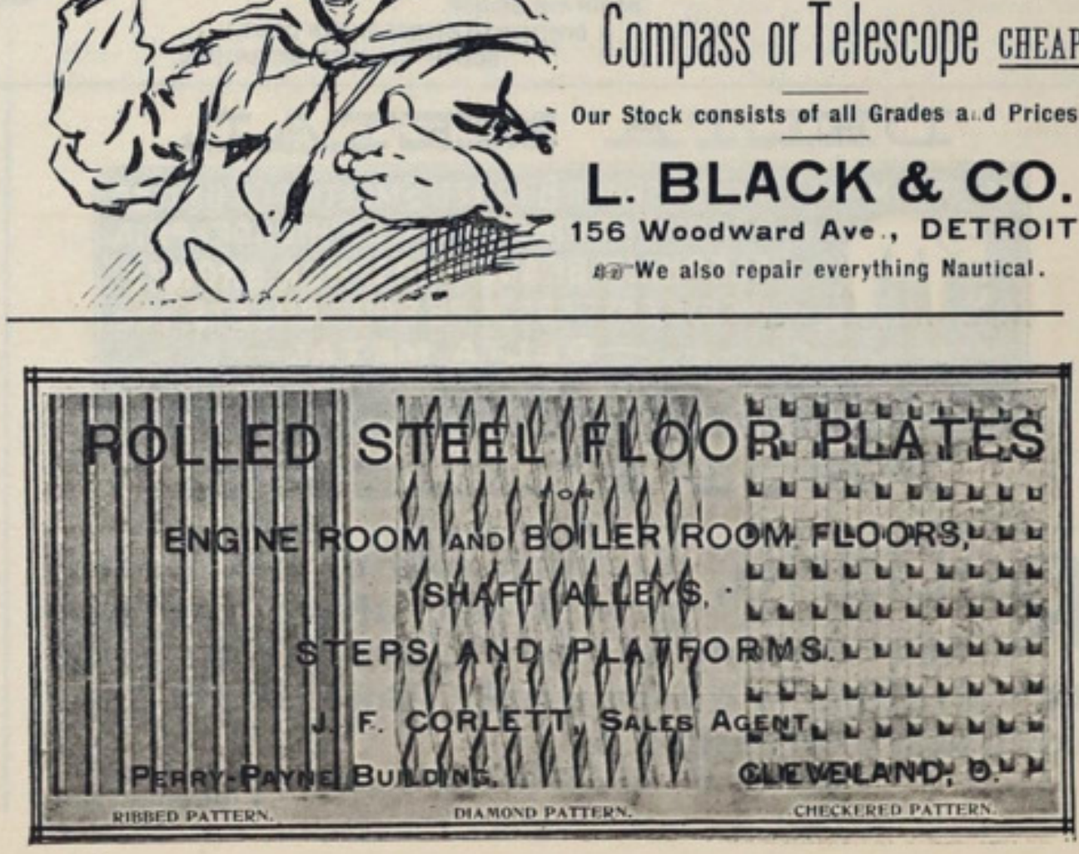

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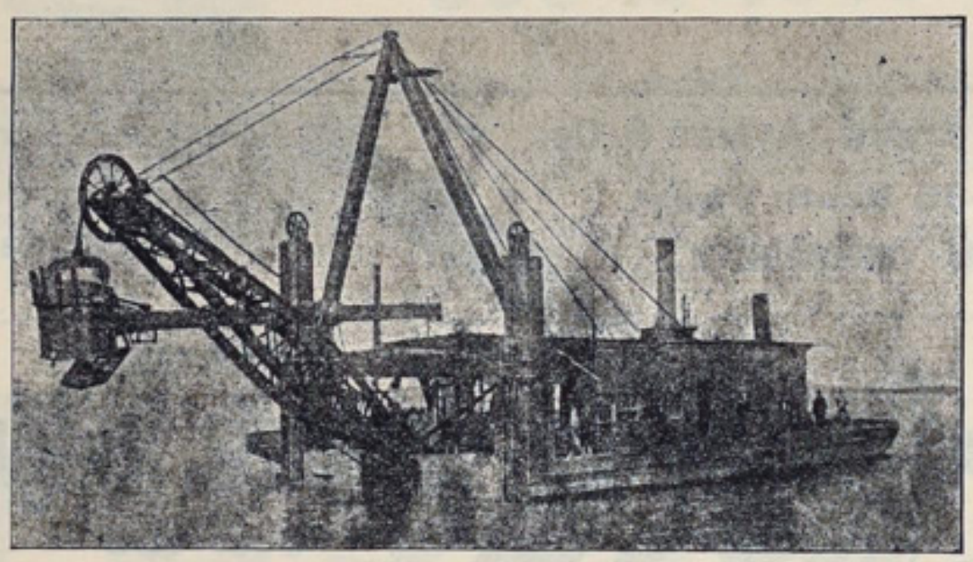

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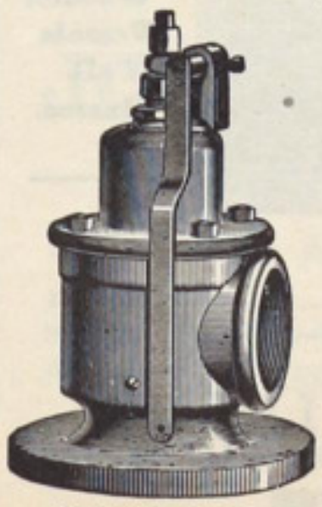

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